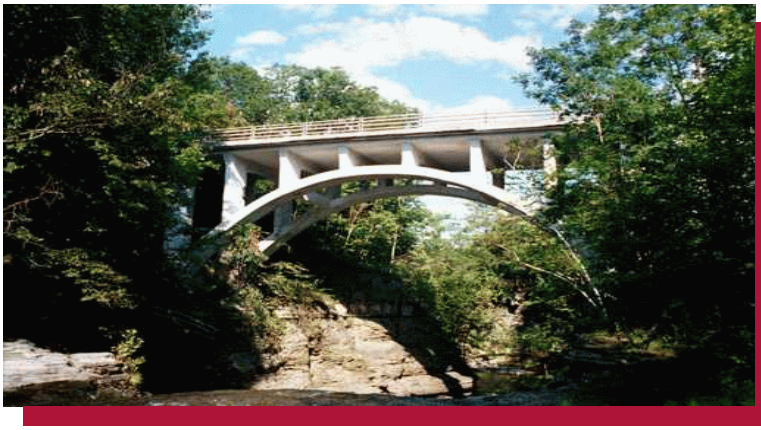
Final Report

Evaluation of National Register Eligibility

Task C3 of the Historic Bridge Inventory and Management Plan



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Cover photograph: Bridge depicted is BIN 1020920, State Route 30 over the Mine Kill, Region 9, Schoharie County.

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Executive Summary

In 1999 the New York State Department of Transportation (NYSDOT), in cooperation with the Federal Highway Administration (FHWA), and the State Historic Preservation Office (SHPO), initiated a multi-year effort to identify state and locally owned highway bridges that are eligible for listing in the National Register of Historic Places (National Register) and develop a management plan for them. This effort is rooted in more than two decades of FHWA policy. The Surface Transportation Assistance Act of 1978, for the first time, permitted states to use funds from FHWA's Bridge Replacement and Rehabilitation Program to conduct inventories of historic bridges. In 1980 FHWA adopted a policy of encouraging states to conduct such inventories. In the early 1980s, many states undertook inventories to identify bridges eligible for listing in the National Register. As these first inventories become outdated or are found to be incomplete, state transportation agencies – including NYSDOT – are reassessing and building upon their early efforts.

This report presents the results of the 2000-2001 inventory and evaluation of pre-1961 bridges that are currently located on public roads and for which the NYSDOT has management responsibility. The current project updates, reevaluates, and replaces eligibility recommendations resulting from NYSDOT's 1984 statewide historic bridge inventory. The report includes the following chapters:

- Chapter 1: *Project Overview* – Provides background information on the project's purpose and scope; describes the procedures that led up to eligibility recommendations; and presents chronology of activities completed under the project.

- Chapter 2: *Evaluation Criteria* – Summarizes the criteria that were applied to evaluate bridges for eligibility.

- Chapter 3: *Methodology for Evaluating Bridges* – Describes the data used in determining eligibility and how eligibility recommendations were made.

- Chapter 4: *Recommendations for National Register Eligibility* – Details the process for evaluating individual bridges within the context of similar bridges and presents recommendations on eligibility.

NYSDOT's *Bridge Inventory and Inspection System* (BIIS) database includes nearly 10,800 structures that were reportedly built before 1961.[1] As a first step, structures that would not be addressed by this project were excluded. Next, remaining bridges were analyzed based on collected data. Following this process, 1,671 bridges that were candidates for eligibility were selected for field survey. Finally, surveyed bridges were evaluated to determine their potential for inclusion in the National Register. Four hundred eighty-one bridges were found to meet National Register criteria and are recommended as eligible; and 1,190 bridges did not meet the criteria and are recommended as not individually eligible. A *Historic Bridge Database* compiles bridge data, records eligibility recommendations, and provides reasons why bridges were excluded from this project.

The eligibility status of each bridge – identified by its unique bridge identification number (BIN) and the region and county in which it is located – is also recorded on the following lists:

- Appendix A – *Master List of Eligible Bridges*

- Appendix B – *Master List of Non-Eligible Bridges*

An additional 105 bridges in New York, not included in Appendix A, are listed in the National Register for their individual significance; 90 of these listed bridges are included in the BIIS.[2] The remainder do not have BINs and are not within NYSDOT's management responsibility. These 105 individually listed bridges are recorded in Appendix C – *Master List of Bridges Listed in the National Register of Historic Places as of June 25, 2001*.

Appendix D, *Eligible and Non-Eligible Bridges Within Possible Historic Districts*, identifies bridges that have a possible historic district in the immediate vicinity. The eligible or non-eligible status refers only to the bridge as an individual resource. The scope of this project did not include assessing the eligibility of historic districts or the potential for bridges to contribute to historic districts.

[1] This project used a 1999 version of the BIIS as its source of bridge data and the BIIS formed the basis for the *Historic Bridge Database*. The BIIS is regularly updated by NYSDOT and the current version may vary slightly from the 1999 version.

[2] This tally was made on June 25, 2001; it does not include bridges that may have been listed in the National Register after that date.

Chapter 1
Project Overview

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A. Introduction

The New York State Department of Transportation (NYSDOT), in cooperation with the Federal Highway Administration (FHWA), and the State Historic Preservation Office (SHPO), has committed to a multi-year effort to identify state and locally owned highway bridges that are eligible for listing in the National Register of Historic Places (National Register) and develop a management plan for them.[3] This effort is known by the project name, *Historic Bridge Inventory and Management Plan*. The NYSDOT selected Mead & Hunt, Inc., as its consultant. Allee King Rosen & Fleming, Inc., (AKRF) is assisting Mead & Hunt with portions of the project.

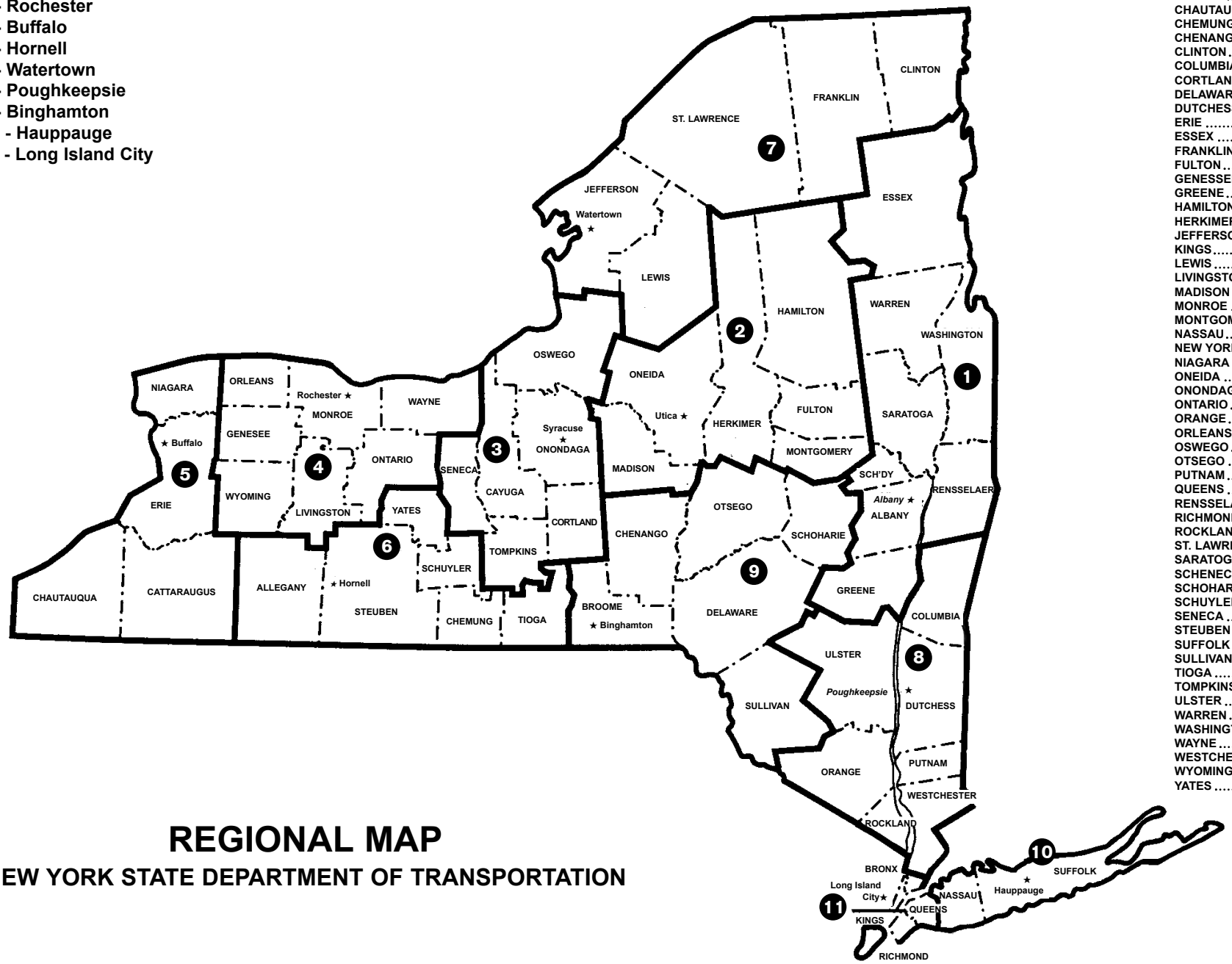
In 1984 NYSDOT coordinated with FHWA and SHPO concerning various types of bridges built prior to 1925. Information was collected on an initial group of approximately 2,100 pre-1925 bridges. As a result, a list of BINs was issued that identified National Register-listed, eligible, and non-eligible bridges. Bridges that could not be evaluated without additional information were also recognized. The current project updates, reevaluates, and replaces eligibility recommendations resulting from this earlier inventory.

The current *Historic Bridge Inventory and Management Plan* is intended to simplify NYSDOT's treatment of 10,800 pre-1961 bridges located statewide. The NYSDOT's 11 regions and encompassed counties are depicted on the *Regional Map* (see Figure). The completion of this effort will allow NYSDOT to be proactive and cost-effective, and will generally eliminate the need for case-by-case review of individual bridge rehabilitation and replacement projects. Currently, NYSDOT reviews bridge projects individually for compliance with Section 106 of the National Historic Preservation Act and Section 14.09 of the New York State Parks, Recreation, and Historic Preservation Law. These regulations require NYSDOT to take into account the effects of its projects on cultural resources (buildings, structures, districts, sites, and objects) that are listed on, or eligible for, the National Register.

[3] The SHPO is an office of the New York State Office of Parks, Recreation, and Historic Preservation.

Location of NYSDOT Regional Offices

1 - Albany
2 - Utica
3 - Syracuse
4 - Rochester
5 - Buffalo
6 - Hornell
7 - Watertown
8 - Poughkeepsie
9 - Binghamton
10 - Hauppauge
11 - Long Island City



REGIONAL MAP

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

COUNTY	REGION
ALBANY	1
ALLEGANY	6
BROOME	9
BRONX	11
CATTARAUGUS	5
CAYUGA	3
CHAUTAUQUA	5
CHEMUNG	6
CHENANGO	9
CLINTON	7
COLUMBIA	8
CORTLAND	3
DELAWARE	9
DUTCHESS	8
ERIE	5
ESSEX	1
FRANKLIN	7
FULTON	2
GENESSEE	4
GREENE	1
HAMILTON	2
HERKIMER	2
JEFFERSON	7
KINGS	11
LEWIS	7
LIVINGSTON	4
MADISON	2
MONROE	4
MONTGOMERY	2
NASSAU	10
NEW YORK	11
NIAGARA	5
ONEIDA	2
ONONDAGA	3
ONTARIO	4
ORANGE	8
ORLEANS	4
OSWEGO	3
OTSEGO	9
PUTNAM	8
QUEENS	11
RENSSELAER	1
RICHMOND	11
ROCKLAND	8
ST. LAWRENCE	7
SARATOGA	1
SCHENECTADY	1
SCHOHARIE	9
SCHUYLER	6
SENECA	3
STEUBEN	6
SUFFOLK	10
SULLIVAN	9
TIOGA	6
TOMPKINS	3
ULSTER	8
WARREN	1
WASHINGTON	1
WAYNE	4
WESTCHESTER	8
WYOMING	4
YATES	6

Through this project, NYSDOT is condensing the procedures it typically follows for individual bridge projects into a comprehensive approach that covers the entire pre-1961 bridge population. The *Historic Bridge Inventory and Management Plan* project involves four principle steps:

- Develop a contextual study for historic bridges in New York State.

- Prepare a methodology for the inventory of pre-1961 bridges and criteria for determining which bridges are eligible for listing in the National Register.

- Conduct an inventory, including field survey, to identify potentially eligible bridges and make recommendations concerning their eligibility for inclusion in the National Register.

- Prepare a management plan for state and locally owned eligible and listed bridges.

This report is the culmination of the third step – compiling an inventory of bridges that were found to be potential candidates for eligibility. It draws upon the two previous steps and their products. In *Step 1*, the *Contextual Study of New York State's Pre-1961 Bridges* (November 1999) laid a foundation for the development of selection criteria for identifying eligible bridges and provided a background to support the evaluation of New York's bridges. *Step 2*, the *Rationale for Evaluation Data Needs* (May 2000), explained the process through which bridges were to be selected for inventory. A second report, *Bridge Evaluation Criteria* (May 2000), described the criteria used for determining eligibility.

The methodology for activities conducted during *Steps 1-3*, which led up to and informed eligibility recommendations, is presented below. Throughout these steps, the consultants met with NYSDOT, and at key stages with FHWA and SHPO, to discuss the methodology and review products. The *Historic Bridge Database* (forthcoming) compiles information specific to individual bridges that was collected in completing these steps. This database will be available for searches through NYSDOT.

In *Step 4*, a management plan will be prepared to establish practices, which are consistent with the needs of transportation and preservation, that the NYSDOT can apply to its eligible and listed bridges. Management practices will be based on engineering feasibility, cost, and preservation value. The management plan will build upon lessons learned from other state transportation agencies and will draw upon input provided by NYSDOT, FHWA, and SHPO staff.

The *Historic Bridge Inventory and Management Plan* project is expected to streamline NYSDOT's efforts in rehabilitating and replacing pre-1961 bridges. **The *Historic Bridge Inventory and Management Plan's* overall objective is to identify, categorize, and prioritize historic bridges; it does not involve any engineering analysis of the structural condition of studied bridges.**

B. Step 1: Contextual Study

Activities

- Distributed press release . . . . . March 1999
- Contacted individuals/groups with interest and knowledge of historic bridges . . March - April 1999
- Distributed questionnaire to historical societies and preservation organizations . . . . . May 1999
- Conducted research at major libraries and historical organizations . . . . . May - June 1999
- Distributed questionnaire to county highway superintendents . . . . . July 1999
- Prepared contextual study . . . . . July - November 1999
- News article published in *The Preservationist* . . . . . Fall/Winter 1999

As the first product of the four-step effort, the *Contextual Study of New York State's Pre-1961 Bridges* (November 1999) was designed to facilitate sound decision-making about the eligibility of bridges in New York for the National Register. The study established a framework for understanding the historical and engineering significance of New York's bridges and provided foundation material upon which eligibility decisions would subsequently be based. It was not intended to be a definitive history of bridge engineering in the state. Historical information was presented in three chapters:

- Chapter 2: *History of Bridge Engineering in the United States* – This chapter described national developments in bridge engineering. It explored types, periods, and methods of bridge construction found in the United States before 1961. For each type of bridge, the design configuration was presented and its prevalence of use established. The evolution of materials found in bridge construction was presented with an emphasis on when materials were adopted for broad use and when they fell out of favor. Technological innovations identified in the United States were introduced and tied to trends they stimulated. The chapter contributed to an understanding of the bridge population and allowed remaining resources to be evaluated within their historic context. This background information on types, materials, and technology facilitated the application of National Register *Criterion C* to New York's bridges in step three of the project.

- Chapter 3: *History of Bridge Design and Construction in New York State* – Significant trends in bridge design and construction in New York State were covered in this chapter. Dates that marked transitions in New York State bridge-building activity were emphasized. Legislation affecting bridge construction was examined. Authority-owned bridges that are outside of NYSDOT jurisdiction were only described as they pertain to the broader context of bridge engineering in New York. This chapter also described bridge-building companies known to have been active in New York, and designers and planners that influenced New York bridge building. The chapter relates to the National Register *Criterion A* for bridges that made significant historical contributions; and *Criterion C* for examples of a period's building practices or works of a master.

- Chapter 4: *Development of New York's Transportation Networks* – This chapter presented significant trends in the development of transportation networks that influenced bridge construction. Networks were considered statewide, as interstate and international linkages, and on regional and urban levels. The chapter also considered the role and importance of government agencies and of state and federal legislation in the development of transportation networks. This chapter provided a general understanding of New York's transportation history, of key bridge-building agencies and authorities, and of the relationship between bridges and transportation networks.

Due to the large number of bridges and the vast amount of information pertaining to them, research undertaken to prepare the contextual study necessarily focused upon the collections of major libraries and the results of database searches. To gain greater insight into significant regional trends in transportation, bridges that are locally valued, and bridges that may be part of a recognized or potential historic district, the consultants mailed questionnaires to nearly 800 historical societies and preservation organizations, 62 county and borough historians, and 57 county highway superintendents/commissioners throughout New York. Sixty-five respondents identified 108 bridges as historically significant; 24 of these bridges are included in the *Historic Bridge Inventory* project. Chapter 3 discusses the reasons why other bridges reported in questionnaire responses are excluded from the inventory.

Research for the contextual study drew from the following sources:

- Textbooks, design manuals, and articles in engineering journals published pre-1961.
- Recent books and articles about bridge engineering.
- Legislative documents and departmental reports.
- State and National Register nominations and landmark designations.
- Historic American Engineering Record surveys and documentation.
- Information received from local historical societies, preservation organizations, and county highway superintendents.
- Bridge surveys previously completed in New York and other states.
- Personal contacts with groups and individuals with interest and knowledge of historic bridges.

Since the contextual study resulted from the first step in a multi-year effort, it should be seen as a working document to be informed by subsequent steps. In theory, the study could be expanded or revised to incorporate the results of *Steps 2* and *3* of the *Historic Bridge Inventory and Management Plan* project. The NYSDOT, FHWA, and the SHPO participated in the development and review of the contextual study.

C. Step 2: Inventory Methodology

Activities

- Identified bridges to be included in the project . . . . . December 1999
- Presented project at county highway superintendents' annual meeting . . . . . January 2000
- Identified subgroups represented in bridge population . . . . . January 2000
- Collected data for included bridges from Bridge Identification Number (BIN) files . . . . . January - February 2000
- Identified *Historic Bridge Database* fields . . . . . March 2000
- Entered data collected from BIN files . . . . . March - April 2000
- Identified data needs for bridges based on subgroups . . . . . April 2000
- Selected bridges for data collection through field survey . . . . . April - May 2000
- Developed criteria for evaluating bridges . . . . . May 2000

Using the contextual study for guidance in *Step 2* of the *Historic Bridge Inventory and Management Plan* project, New York's 10,800 pre-1961 bridges were sorted into appropriate subgroups defined by bridge types. The methodology for *Step 2* included developing a list of bridge subgroups and an explanation of the level and kind of data that would be collected to evaluate the eligibility of bridges in each subgroup.

Distinguishing "Included" and "Excluded" Bridges

Initially, the pool of bridges was looked at to exclude those bridges outside the scope of this project. The *Historic Bridge Inventory and Management Plan* project addresses pre-1961 bridges that are currently located on public roads and for which NYSDOT has management responsibility. Each bridge is identified by a unique, 7-digit BIN, which is assigned by NYSDOT. Using information from NYSDOT's *Bridge Inventory and Inspection System* (BIIS) database, bridges were distinguished by BIN as "included" or "excluded."[4] The *Historic Bridge Database* attaches a "reason for exclusion" to the BIN of each excluded bridge. Exclusion codes are explained in the *Historic Bridge Inventory Data Dictionary* (December 2001). This section explains which bridges are included and which are excluded.

[4] This project used a 1999 version of the BIIS as its source of bridge data and the BIIS formed the basis for the *Historic Bridge Database*. The BIIS is regularly updated by NYSDOT and the current version may vary slightly from the 1999 version.

The project includes bridges owned by the following entities:[5]

10 – NYSDOT
2A – Genesee State Parks and Recreation Commission
2B – Interstate Bridge Commission
2D – Lake Champlain Bridge Commission
2E – Lake George Park Commission
2F – Long Island State Parks and Recreation Commission (except bridges on eligible or listed parkways)
2J – Niagara Frontier State Park Commission
20 – Other State Department
21 – Authority or Commission
25 – Capital District State Park Commission
26 – Central New York State Park Commission
27 – City of New York State Park Commission
29 – Finger Lakes Parks and Recreation Commission
30 – County
40 – Town
41 – Village
42 – City
50 – Federal
51 – Bureau of Indian Affairs
52 – U.S. Forest Service
53 – National Park Service
54 – Bureau of Land Management
55 – Bureau of Reclamation
56 – Military Reservation/Corps of Engineers
72 – Other

The project excludes bridges owned by the following entities:[6]

2G – Metropolitan Transportation Authority
2H – Monroe County Water Authority
2I – Niagara Falls Bridge Commission
2K – New York State Bridge Authority
2L – New York State Thruway Authority
2M – Ogdensburg Bridge and Port Authority
2N – Palisades Interstate Park Commission
2O – Port of New York Authority
2P – Power Authority
2Q – Seaway International Bridge Authority
2R – Taconic State Park Commission
2S – Thousand Islands Bridge Authority
2T – Transit Authority
2U – Triborough Bridge and Tunnel Authority
2V – Tri-State Transportation Commission
22 – Allegany State Park Authority
23 – Nassau County Bridge Authority
24 – Buffalo and Fort Erie Public Bridge Authority
28 – East Hudson Park Authority
43 – New York City Department of Water Supply, Gas, and Electric
60 – Railroad
61 – Long Island Railroad
62 – NS or CSX (formerly Conrail/Penn Central)
70 – Private-Industrial
71 – Private-Utility

Most canal systems and parkways are not addressed in this project because they have previously been evaluated for inclusion in the National Register. Parkway and canal bridges that have been previously evaluated for the National Register have been excluded from further consideration as part of this study. The remaining parkway and canal bridges (i.e., those not previously evaluated for the National Register) have been included in this project.

[5] Entities are organized by NYSDOT owner coding from the BIIS database.

[6] Entities are organized by NYSDOT owner coding from the BIIS database.

The following parkways are eligible for, or listed in, the National Register. Bridges on or over these parkways are excluded from further consideration as part of this inventory.[7]

Region 8

- Bronx River Parkway – eligible section from Kensico Dam Plaza to junction of Sprain Brook Road, Bronxville
- Palisades Interstate Parkway
- Taconic State Parkway – eligible section from N.Y. 202 north to Berkshire Exit

Region 10

- Bethpage Parkway
- Loop Parkway
- Meadowbrook Parkway – includes interchange with and south of Southern State Parkway
- Ocean Parkway
- Wantaugh Parkway – includes interchange with and south of Southern State Parkway

Region 11

- Ocean Parkway

The following parkways were previously evaluated and determined non-eligible for the National Register. Bridges on or over these parkways are excluded.

Region 8

- Bronx River Parkway – non-eligible section south of Bronxville
- Cross County
- Hutchinson River
- Sawmill River
- Sprain Brook

Region 11

- Bronx River Parkway

[7] The location of the parkway references the NYSDOT region within which that section of the parkway lies.

In 2001, a Programmatic Agreement that addresses the eligibility and management of canal bridges was fully executed.[8] This agreement covers the New York State canal system and the extant remains of its predecessors: the Erie, Champlain, Oswego, Genesee, Chemung, Chenango, and Black River canals; and the related private Western Inland Navigation, Chenango Extension, and Junction canals. Four hundred twelve canal bridges were evaluated as part of that project. Since these bridges have been previously evaluated, they are excluded from the *Historic Bridge Inventory and Management Plan* project.

Structural types that are not vehicular bridges and bridges built after 1960 are not included in the project. The following types of structures were excluded:

- Tunnels
- Culverts
- Ramps[9]
- Utility structures
- Exclusively pedestrian bridges
- Elevated roadways[10]
- Railroad bridges

In instances where only the abutments of a bridge predated 1961, i.e., the superstructure had been replaced, the decision was made to exclude the structure. Bridges that had been entirely replaced since 1960 or entirely removed were also excluded.

To meet NYSDOT's immediate project planning needs and to maintain a consistent objective for this project, the following types of structures were also excluded:

- State or National Register listed.
- In or near State or National Register-listed district.
- Section 106 review completed (current project affecting bridge).
- On NYSDOT 5-year Capital Program (planned project affecting bridge).

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[8] See *Programmatic Agreement Concerning Bridges Over The National Register Eligible New York State Canal System* (Agreement among the Federal Highway Administration, New York State Department of Transportation, the New York State Historic Preservation Officer, and the Advisory Council on Historic Preservation, 2001; unpublished document on file at the New York State Department of Transportation).

[9] Excluded "ramps" were identified based on BINs used in NYSDOT's BIIS database. BINs used for ramps include six digits followed by a letter, whereas typical BINs use seven digits.

[10] Excluded "elevated roadways" have nine or more spans and are functionally classified as an interstate, freeway or major arterial. Elevated roadways meeting this definition were identified based on descriptive information in NYSDOT's BIIS database.

Individually listed bridges are excluded for the *Historic Bridge Inventory* portion of the project, because their eligibility is already established. Appendix A contains a master list of National Register-listed bridges currently located on public roads and for which NYSDOT has management responsibility. These listed bridges will be addressed in the management plan to be completed in *Step 4* of the project.

Bridges within or immediately adjacent to listed districts were excluded because such bridges must be evaluated within the context of the district. Evaluation of historic districts was outside the scope of this project.[11]

Bridges associated with current or planned (within the next 5 years) projects were excluded and will be subject to individual Section 106 review.

Sorting Bridges by Subgroups

Following these exclusions, the process of sorting remaining bridges into appropriate subgroups began. Subgroups of bridges were formed based on a wide range of defining features as follows:

- Bridge types (basic types are arch, beam/girder, movable, suspension, and truss).
- Variations within types.
- Materials.
- Arrangement of structural members.
- Date of construction, especially pre-standardization.
- Aesthetic treatments.
- Known historical associations (as identified through contextual study research and questionnaire responses).

Subgroups were composed of one or more layers, as needed, to distinguish each bridge and place it within an appropriate context of similar bridges. Uncommon bridge types, such as suspension and movable bridges, were represented by a simple subgroup of only one layer. More common types had several layers of distinction, including type, material, arrangement, and number of

[11] Surveyors identified possible historic districts in the immediate vicinity of bridges to assist NYSDOT with potential future project planning. These possible historic districts are recorded in the *Historic Bridge Database* record for the individual bridges (see Appendix D). If NYSDOT undertakes a project that may affect such a district, the possible historic district would be evaluated for eligibility at that time.

spans. The methodology for stratifying bridges by subgroup is further explained in *Bridge Stratification Methodology and List of Subgroups* (December 1999).

Collecting Data for Bridges Within Subgroups

Data was collected for bridges within the different subgroups. The type and level of information collected for each subgroup was designed to be sufficient to support subsequent decisions about the National Register eligibility of bridges. NYSDOT's regional offices keep bridge inspection files – known as BIN files – for individual bridges located on public roads. BIN files provided some or all of the following materials:

- Photographs taken during latest bridge inspections within last year or two.
- Photographs taken during previous inspections and up to 20 years ago; these photos revealed alterations.
- Original plans.
- Work history, including descriptions of alterations.

Data collected through the review of BIN files helped to complete the placement of bridges within appropriate subgroups. For example, photographs contained in the BIN files revealed specific truss types, such as Parker, Pratt, Warren, etc.

Completing Exclusion Process

After inspection of the BIN files, additional bridges were excluded because they were found to have replaced superstructures or fit into an excluded category, such as a culvert or railroad bridge.

The process for excluding bridges is further described in *Data Collection and Database Synthesis Methodology* (March 2000). The following table summarizes the process:

Table 1-1
Process for Excluding Bridges/Selecting Bridges for Field Survey[12]

Step	Approximate No. of Excluded Bridges	Approximate No. of Remaining Bridges
Apply initial exclusion filters to 10,800 bridges – ownership, canal or parkway, non-bridge structural type, etc.	4,000	6,800
Apply additional exclusion filters[13]	500	6,300
Identify exclusions through BIN file review	1,200	5,100
Select bridges for field survey[14]	3,150	1,950
Identify exclusions through field survey and NYSDOT project data	250	1,700
Total	9,100	1,700

Selecting Bridges for Field Survey

With approximately 5,100 bridges remaining in the pool, bridges were selected for field survey based on an analysis of the subgroups. Factors that were considered include:

- Number of bridges represented in the subgroup.
- Significance of the subgroup within the context of bridges in New York State.
- Whether the subgroup includes pre- or post-standardization bridges.
- Whether the bridges have known historical associations or special recognitions – from contextual study and questionnaire results.

[12] The total number of pre-1961 bridges in NYSDOT's 1999 BIIS database was almost 10,800.

[13] At this stage, bridges located in or near an eligible or listed historic district and on/over an ineligible parkway, and bridges that were found to fit into previously established exclusion categories were removed from the pool.

[14] The process for selecting bridges for field survey is explained in the text that immediately follows this table.

- Whether bridges in a subgroup have been significantly altered – alterations identified through BIN file review and work history data collected by NYSDOT in its WINBOLTS database.

Numbers of bridges in each of the five basic bridge types were considered. Since four of the five basic bridge types were found to be relatively uncommon, all examples of these types (arches, movable bridges, trusses, and suspension bridges) were selected for field survey. Beam/girder bridges were selected for field survey through two activities: (1) eliminating bridges with integrity problems due to alterations; and (2) identifying bridges that possess traits that may hold significance. The selected beam and girders were cross-checked against the included population of this type and found to be representative of the subtypes, materials, geographic location, and dates of bridges found in the larger group. The process of selecting candidates for field survey is further explained in *Rationale for Evaluation Data Needs* (May 2000).

The following table summarizes bridges selected for field survey:

Table 1-2
Bridges Selected for Field Survey

Basic Bridge Type	No. of Bridge Type in Pool	No. Selected for Survey
Arch	433	433
Beam/girder	4,146	1,017
Movable	18	18
Truss	464	464
Suspension	3	3
Total	5,064	1,935[15]

[15] During the field survey, additional bridges were found to fit into excluded categories (see last step of Table 1-1). NYSDOT also provided a list of excluded BINs for bridges involved in current or planned projects. Following these final exclusions, a total of 1,671 bridges progressed to the next stage – determinations of eligibility.

Bridges selected for field survey are distributed geographically as follows:

Table 1-3
Scope of Field Survey – By Region

Region		No. of Bridges[16]
1	(Albany)	184
2	(Utica)	175
3	(Syracuse)	160
4	(Rochester)	111
5	(Buffalo)	154
6	(Hornell)	83
7	(Watertown)	206
8	(Poughkeepsie)	229
9	(Binghamton)	153
10	(Long Island)	186
11	(New York City)	310

Developing Evaluation Criteria

As the final activity under *Step 2,* criteria for determining which bridges are eligible for listing in the National Register were developed. The National Register criteria as applied to NYSDOT's pre-1961 bridges were developed through consultation among NYSDOT, its consultants, the SHPO, and FHWA. The criteria are informed by previous project activities, including the results of the contextual study and the stratification of bridges by subgroups. The basis for applying the National Register criteria is described in the report, *Bridge Evaluation Criteria* (May 2000), and summarized in Chapter 2 – *Evaluation Criteria* of this report.

[16] The total number of bridges in this table, 1,951, differs slightly from the total in Table 1-2 due to the ongoing exclusion process at this stage of the project.

D. Step 3: Field Survey

Activities

- Trained field surveyors . . . . . May 2000
- Conducted field survey . . . . . June - August 2000
- Completed review of field survey forms . . . . . August - September 2000
- Entered field data into *Historic Bridge Database* . . . . . October - November 2000

Following the selection of bridges for field survey, preparations were made for sending surveyors into the field. A form for collecting data and location map were prepared for each bridge. Instructions for identifying bridge types, engineering features, aesthetic treatments, integrity problems, and possible historic districts;[17] observing safe survey practices; and photographing bridges were compiled into the *Historic Bridge Inventory Training Manual* (May 2000). Surveyors received a manual and participated in a 3-day training course that explained and expanded upon its instructions.

For use in the field, data collection forms were preprinted with known data extracted from the BIIS database or obtained through BIN file review. Each surveyor was assigned to field check and photograph bridges within a contained geographic area. In visiting each bridge, surveyors verified existing data, recorded new observations – including alterations – and photographed the bridge. Data collected during the field survey was reviewed by NYSDOT and its consultants for accuracy and consistency, and subsequently entered into the *Historic Bridge Database*.

As a result of data collected during the field survey, additional bridges were found to fit into excluded categories. Finally, NYSDOT provided a list of BINs for bridges involved in current or planned projects that were excluded. These bridges were removed from the pool of bridges for which eligibility was considered and will be subject to individual Section 106 review. For each excluded bridge, the appropriate exclusion code (e.g., superstructure replaced, Section 106 review completed, on NYSDOT's 5-year Capital Program, etc.) was entered into the *Historic Bridge Database*. Following these final exclusions, a total of 1,671 bridges progressed to the next stage – determinations of eligibility.

The methodology for making recommendations concerning the eligibility of bridges for inclusion in the National Register – the final activity under *Step 3* – is described in Chapter 3 – *Methodology for Evaluating Eligibility*. Eligibility decisions were supported by information gathered during the contextual study, review of BIN files, and field survey. Data collected during

[17] Surveyors identified possible historic districts to assist NYSDOT with potential future project planning. Possible historic districts that are immediately adjacent to bridges are recorded in the *Historic Bridge Database* record for the individual bridges. The scope of this project did not include evaluating the eligibility of historic districts.

each of these steps is compiled in the *Historic Bridge Database*.[18] The eligibility recommendations appear in Chapter 4 – *Recommendations for National Register Eligibility* and are organized first by basic bridge type and secondarily by subgroups.

E. Expected Results

As the result of this evaluation process, NYSDOT, FHWA, and SHPO have reached consensus on eligibility recommendations for close to 6,300 bridges in New York State. Project sponsors will have this information in hand before initiating a project. In *Step 4* of the *Historic Bridge Inventory and Management Plan* project, a management plan will be prepared to establish practices, which are consistent with the needs of transportation and preservation, that the NYSDOT can apply to its eligible and listed bridges. Management practices will be based on engineering feasibility, cost, and preservation value. The management plan will build upon lessons learned from other state transportation agencies through interviews and shared documents, and will draw upon input provided by NYSDOT, FHWA, and SHPO staff.

The management plan will address treatment options for eligible and listed bridges, including preservation when feasible, that are available to NYSDOT and bridge owners. In developing the plan, NYSDOT will seek input from these owners. Input from local groups is needed to develop a *Historic Bridge Management Plan* that can be successfully implemented by parties who own eligible or listed bridges throughout New York. As the final product of the *Historic Bridge Inventory and Management Plan* project, a draft Programmatic Agreement will be prepared to help implement management recommendations. The Programmatic Agreement will be final when it is agreed upon and executed by state and federal agencies, including NYSDOT, FHWA, SHPO, and the Advisory Council on Historic Preservation, as appropriate. These parties are responsible for complying with and administering Section 106 of the National Historic Preservation Act and Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law.

The *Historic Bridge Inventory and Management Plan* project is expected to streamline NYSDOT's efforts in rehabilitating and replacing pre-1961 bridges. Its products will allow NYSDOT to be pro-active in its efforts to comply with Section 106 and Section 14.09. The management plan will recommend management practices for state and locally owned eligible and listed bridges, simplifying NYSDOT's consideration of alternatives for an individual project.

[18] The *Historic Bridge Inventory Data Dictionary* (December 2001) provides information on the source of data, the meaning of each data field, and the codes used in recording data.

Chapter 2
Evaluation Criteria

Chapter 2
Evaluation Criteria

A. Applicable Criteria

The criteria used for evaluating the significance of New York State's pre-1961 bridge population are presented in *Bridge Evaluation Criteria* (May 2000) and summarized in this chapter. The evaluation criteria for this project are based upon the National Register of Historic Places (National Register) criteria for evaluation (Department of Interior, National Park Service) and were informed by the *Contextual Study of New York State's Pre-1961 Bridges* (November 1999). Information in the study provides background on New York's bridge population, trends in bridge design and transportation in the state, and influential bridge builders. As such, this historic context provided the foundation for evaluating bridges within an appropriate comparative framework.

For purposes of this project, bridges of historic value are defined as those that are listed on, or eligible for listing on, the National Register. The National Register is the official federal list of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture. Bridges are one of the types of structures that may be eligible for listing in the National Register. Listed or eligible properties can be significant at the local, state, or national level; this project makes no distinction between levels of significance a bridge may possess.

The National Register criteria for evaluation, established by the National Park Service, are outlined in *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*. The criteria that apply to New York's bridges follow:[19]

- *Criterion A – Associated with events or activities that have made a significant contribution to the broad patterns of our history*.

  Recognizes bridges that have an important association with single events, a pattern of events, repeated activities, or historic trends that are significant within the context of New

[19] Two additional criteria were found not to apply. *Criterion B* recognizes properties that are associated with the lives of persons significant in the past. Eligible properties must illustrate, rather than commemorate, a person's specific historic contributions. None of the bridges in this inventory were found eligible under *Criterion B.* (See *Criterion C* for eligibility of bridges that represent the work of a master.) *Criterion D* recognizes properties that have yielded, or may be likely to yield, information important in prehistory or history. Evaluation of bridges under *Criterion D* was considered to be outside the scope of this project.

York's bridge-building history. This criterion applies to bridges that played a vital role in state or local settlement or transportation development.

- *Criterion C – Embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic value*.[20]

  Recognizes bridges that have distinctive design or construction characteristics that demonstrate the following:

  – The pattern of features common to a particular type of bridge
  – The individuality or variation of features that occurs within the type
  – The evolution of that type of bridge

  This criterion takes into consideration unique bridge features and variations, choices and availability of materials and technology, and important firsts and innovations. *National Register Bulletin 15* provides further guidance:

  > *A structure is eligible as a specimen of its type or period of construction if it is an important example (within its context) of building practices of a particular time in history. For properties that represent the variation, evolution, or transition of construction types, it must be demonstrated that the variation, etc., was an important phase . . .*

  Criterion C also recognizes the significant works of master engineers or bridge-building firms. Structures that do not represent a particular phase or aspect of a master's work are not eligible as the work of a master, but might meet other portions of the criterion, which are described above.

To qualify for the National Register, a property must generally be at least 50 years old; otherwise, it must possess exceptional importance. NYSDOT chose to inventory pre-1961 bridges to allow for a reasonable margin of comfort around the National Register's 50-year age requirement. For bridges built between 1952 and 1960, the "exceptional importance" standard was waived so that this inventory will have greater lasting power.

[20] A subset of this criterion – the transition between types of bridges – was found not to apply. While bridges were found to demonstrate variations and evolution within a type, it is unclear that a bridge could demonstrate the transition from one type to another, say from a rolled beam to a girder.

B. Integrity Considerations

The National Register criteria specify that a bridge's historic integrity also be weighed in making decisions about eligibility. Historic integrity should be distinguished from structural (or functional) integrity. Structural integrity describes the ability of a bridge to function as it was originally designed. For example, a bridge that has had its substructure undermined through flooding may not be able to function as originally designed due to a reduced load capacity. However, the bridge would retain historic integrity since no change has been made to the fabric of the superstructure.

National Register Bulletin 15 defines historic integrity as "the ability of a property to convey its significance." Though the evaluation of integrity is sometimes subjective, it is grounded in an understanding of a property's physical features and how they relate to its significance. The National Register criteria recognize seven aspects or qualities that, in various combinations, define integrity:

- *Location – The place where the historic property was constructed or the place where the historic event occurred.*

- *Design – The combination of elements that create the form, plan, space, structure, and style of a property.*

- *Setting – The physical environment of a historic property.*

- *Materials – The physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.*

- *Workmanship – The physical evidence of the crafts of a particular culture or people during any given period in history.*

- *Feeling – A property's expression of the aesthetic or historic sense of a particular period of time.*

- *Association – The direct link between an important historic event or person and a historic property.*

A property that retains historic integrity will possess several, and usually most, of these aspects. Determining which of the aspects of integrity are most important to a particular property requires knowing why, where, and when the property is significant. For bridges, alterations negatively affecting integrity are typically evident in a structure's design, workmanship, or materials.

Alterations that may diminish the historic integrity of bridges are recorded in the *Historic Bridge Database*. Chapter 3 – *Methodology for Evaluating Eligibility* includes a detailed discussion of the methodology for assessing the historic integrity of bridges.

Chapter 3
Methodology for Evaluating Eligibility

Chapter 3
Methodology for Evaluating Eligibility

The National Register of Historic Places (National Register) criteria were applied to the 1,671 bridges that remained in NYSDOT's pre-1961 bridge population following exclusions based on data collected during the field survey. Table 1-1 in Chapter 1 summarizes the exclusion process. Application of the National Register criteria drew from data collected in preparing the contextual study, reviewing NYSDOT bridge inspection (BIN) files, stratifying the population, and conducting the field survey. Data collected during each of these project stages and existing information contained in the BIIS database aided in determining a bridge's historic significance and integrity. Newly collected data used for determinations of eligibility is compiled in the *Historic Bridge Database*; other descriptive information was used from the BIIS database and updated, as necessary, to reflect changes found during the course of this project.

This project did not attempt to identify whether bridges would be eligible for the National Register as contributing resources within a historic district.[21] Assessing the eligibility of historic districts is outside of the scope of this project. Likewise, an individual bridge's association with a larger transportation system such as a canal, parkway, or interstate, was not considered in determining eligibility of individual bridges. Bridges associated with larger transportation systems must be evaluated within the context of the larger system, which is outside of the scope of this project. If NYSDOT undertakes a project that may affect a possible historic district, including a district that encompasses a large transportation system, the district would be evaluated for eligibility at that time.

Each bridge was recommended as eligible or non-eligible based on its individual merit or lack thereof. To achieve this objective, each bridge was first analyzed as a component of a larger group so that its relevant context could be understood. Five basic bridge types provided the overall structure for dividing bridges by group: arch, beam/girder, movable, truss, and suspension. These types were further divided into subgroups based on specific structural type. Subgroups represented by substantial numbers of bridges – like "Warren truss " with 246 examples – were further divided to allow for comparison within a relevant pool. The methodology for stratifying bridges by subgroup is summarized under *Step 2* in Chapter 1 and further explained in *Bridge Stratification Methodology and List of Subgroups* (December 1999).

[21] To assist NYSDOT with future project planning, however, surveyors identified possible historic districts to alert NYSDOT to this potential consideration. Possible historic districts that are immediately adjacent to bridges are recorded in the *Historic Bridge Database* record for the individual bridges (see Appendix D).

The relevant pool was analyzed to understand the relative merit of each individual bridge. Each subgroup was sorted by date and by region. NYSDOT and SHPO requested that the final list of eligible bridges be checked for diversity of bridge types in each of NYSDOT's 11 management regions. Eligibility recommendations include regional representation of a variety of bridge types. Subgroups were examined to determine the correlation between structural type, integrity, and presence of special features – like historical association or aesthetic treatment.

In considering integrity, the number of bridges in a subgroup and the relative integrity of the examples were assessed. The degree of change to a bridge was weighed against its engineering and historical significance in making eligibility recommendations. To be eligible, a bridge had to exhibit sufficient integrity to convey its particular significance.

Examples of alterations that may affect the integrity of bridges include:

- Raising vertical clearance for overhead trusses
- Changing a rail or parapet that is integral to the superstructure
- Replacing main structural members
- Adding non-original, main structural members
- Removing a parapet that was integral to the superstructure
- Widening a bridge with new structural members
- Adding a concrete veneer to the original masonry superstructure
- In-filling the underside of an arch rib or girder
- Removing main members that were integral to the superstructure
- Removing the superstructure
- Lengthening a superstructure with additional spans

Integrity problems are recorded in three fields in the *Historic Bridge Database*. No bridge had more than three identified integrity problems.

For example, only one King Post truss was included in the pool of bridges for which eligibility was assessed. It had an integrity problem, represented by steel girder members that provided support to the superstructure. This bridge was recommended as eligible despite this alteration, because its type is rare and the bridge was still able to convey its historical significance.

Common bridge types, such as beams and girders and concrete arches, were held to a higher level of historic integrity. Due to the ubiquity of beams and girders, all examples with identified integrity problems were removed from consideration for National Register eligibility. Concrete arches were carefully analyzed to determine which bridges were best able to convey the significance of this type. The integrity problems specific to an individual concrete arch were considered to determine whether the bridge was still able to convey its historical significance.

The comparative analysis of bridges within a subgroup also involved examining the presence of aesthetic treatment. Aesthetic features may enhance a bridge's potential for National Register eligibility.

Examples of aesthetic treatments that are present in the bridge population include:

- Decorative portal
- Decorative rail or parapet
- Decorative panels
- Masonry veneer
- Decorative arch
- Decorative tower or cable stays
- Decorative lighting
- Concrete modillions or added features
- Non-decorative parapet[22]

Aesthetic treatments are recorded in four fields in the *Historic Bridge Database*. No bridge had more than four aesthetic treatments.

Bridges were analyzed to determine whether the presence of aesthetic treatments allow a bridge to convey high artistic value. One or more treatments could achieve a significant artistic effect. For beams and girders, masonry veneer, decorative arch ring, and decorative lighting are considered to be the aesthetic treatments most likely to possess high artistic value. Bridges with high artistic value were considered eligible if their treatments expressed an aesthetic ideal as related to a particular bridge type.

When considering bridges within a subgroup, the presence of "special recognition" played a strong role in recommending certain examples as eligible for the National Register under *Criterion A*. Many bridges held special recognition due to a historical association or a previous acknowledgment of their significance. These recognitions were identified through historical questionnaires collected from historical and preservation organizations statewide, research presented in the *Contextual Study of New York State's Pre-1961 Bridges*, records held by NYSDOT and SHPO indicating previous determinations of eligibility, and historical markers and plaques observed during the field survey.

[22] Although a non-decorative parapet is not aesthetic, such parapets were recorded under the broader category of aesthetic treatment. The inventory revealed a number of beam/girder bridges with simple parapets that appear as a veneer or facade, which obscures all or part of the superstructure.

Special recognition that bridges possess include:

- Within previously determined eligible district.
- Identified in surveys to local groups (e.g., historical and preservation organizations).
- Previously determined individually eligible by the SHPO.
- Shielded by roofing and siding (known as a "covered bridge").
- Known historical association – either unspecified,[23] Depression-era funding, association with individual, memorial, or bridge marker.

Special recognition is recorded in three fields in the *Historic Bridge Database*. No bridge had more than three special recognitions.[24]

Bridges with special recognition were given special consideration for eligibility. Bridges with "known historical associations" were considered for eligibility under *Criterion A.* The significance of the known historical association was assessed to determine whether a bridge should be determined eligible on this basis. In addition, previous eligibility determinations for individual bridges allowed such bridges to be highlighted for review. However, previous determinations did not necessarily make a bridge eligible. Instead, such bridges were assessed applying the same methodology applied to each bridge in the current project. For bridges within districts that were known to have been determined eligible, each bridge's potential for individual eligibility was assessed using the current methodology. However, the bridge's ability to contribute to a historic district was not assessed and is outside of the project scope.

The special recognition of "identified in surveys to local groups" was weighed heavily in making eligibility recommendations. Completed questionnaires from historians, historical organizations, and county highway superintendents/commissioners identified 108 bridges with historical significance to the local community. Twenty-four of these bridges are included in the project and received the special recognition designation, "identified in surveys to local groups."

[23] Unspecified historical associations are recorded on the BIN file review and/or field survey forms for an individual bridge.

[24] The meaning of the special recognition code now labeled "identified in surveys to local groups" evolved over the course of the project. This code originally identified a more general "historical significance" category and also included bridges identified as significant through contextual research, SHPO files, National Register nominations, and Historic American Building Survey/Historic American Engineering Record recordations.

Twelve of the bridges reported in questionnaires are no longer extant or have been replaced by newer structures according to NYSDOT records. Seven bridges reported in questionnaires were identified by BIN, but those BINs are not included in the BIIS database; these structures may have been removed. BINs could not be identified for 17 bridges because they are not located on public roads, they are not under NYSDOT management responsibility, or an explicit location was not available.

The remaining 48 bridges reported in questionnaires were excluded for one of the following reasons:

- Previously State/National Register listed
- Excluded owner
- In or near State/National Register-listed district
- Over eligible canal
- Superstructure replaced after 1960
- Section 106 review completed

Bridges with the special recognition code "identified in surveys to local groups" are recommended as eligible unless they have been substantially altered. For example, one filled spandrel, concrete arch that was identified as historically significant on a completed questionnaire has been widened in a manner that obscures the original structure; therefore, it is recommended as non-eligible. Bridges that are recommended as eligible based on this special recognition vary in type from brick and steel arches, to a bascule and a rolled-beam bridge.

For larger subgroups of bridges – especially subtypes of beam/girders – the comparative analysis was extended to other distinctive features or trends that might influence recommendations of eligibility. Distinctive features included construction material such as timber or prestressed concrete, or support systems such as cantilevered or continuous. Such features are recorded in the BIIS database. Trends revolved around periods of construction, such as Depression-era, and the period of plan standardization, a practice which began in 1908 and had taken firm hold by 1930. Since these features and trends were more or less important in assessing eligibility depending on the particular subgroup, a more detailed discussion is presented by subgroup in Chapter 4 – *Recommendations for National Register Eligibility*.

Eligibility recommendations were made for each of the 1,671 pre-1961 bridges by:

- Reviewing the photographs and collected data for each individual bridge.

- Making a comparative analysis of bridges within subgroups by examining factors such as period of construction, location, integrity, and special features.

- Comparing photographs of related bridges.

- Applying the National Register criteria.

For each eligible bridge, the applicable criterion and area of significance is specified. Each eligible bridge's criterion/area of significance is also recorded in the *Historic Bridge Database.* Eligible bridges met one or more of the following seven criterion/area of significance:

1. *Criterion A – associated with historic event(s) or activities* (A-1).

2. *Criterion A – associated with historic trends* (A-2).

3. *Criterion C – represents the work of a master* (C-3).

4. *Criterion C – possesses high artistic value* (C-4).

5. *Criterion C – demonstrates pattern of features common to a particular bridge type* (C-5).

6. *Criterion C – demonstrates individuality or variation of features within a particular bridge type* (C-6).

7. *Criterion C – demonstrates evolution of a particular bridge type* (C-7).

The results of the application of the National Register criteria are presented in the following section and are arranged by basic bridge type: arches, beams/girders, movable bridges, trusses, and suspension bridges. The eligibility results presented in this report reflect consensus among NYSDOT, SHPO, and FHWA. A more detailed explanation of how comparative analysis was used for each subgroup is also provided.

Chapter 4
Recommendations for National Register Eligibility

Chapter 4
Recommendations for National Register Eligibility

This chapter presents eligibility recommendations for 1,671 bridges that were selected for field survey. Four hundred eighty-one bridges were found to meet National Register criteria and are recommended as eligible; and 1,190 bridges did not meet the criteria and are recommended as not individually eligible. Eligible bridges are summarized in Table Nos. 4-1 and 4-2:

Table 4-1
Eligible Bridges by Type

Type/Subgroup	No.
Arches	
Concrete Arch – Deck	113
Concrete Arch – Half-Through	2
Masonry Arch	32
Steel Arch	7
***Total Arches**:*	*154*
Pre-1930 Beams/Girders	
Jack Arch	10
Plate Girder	10
Rigid Frame	1
Rolled Beam	17
Slab	2
T-Beam	4
Timber Beam	3
Subtotal:	*47*
Post-1929 Beams/Girders	
Bridges with Historical Associations	11
Bridges with High Artistic Value	6
Box Girder	5
Cantilever Spans	2

Table 4-1
Eligible Bridges by Type

Type/Subgroup	No.
Continuous Spans	3
Prestressed Concrete T-Beams	1
Subtotal:[25]	*27*
Total Beams/Girders:	*74*
Movable Bridges	
Bascule	10
Lift	3
Retractile	2
Swing	1
Total Movable Bridges:	*16*
Common Trusses	
Pratt	77
Warren	108
Subtotal:	*185*
Uncommon Trusses	
Baltimore	6
Bowstring Arch	5
Camelback	9
King Post	1
Lenticular	8
Parker	15
Pennsylvania	3
Trusses with Unusual Configurations	3
Subtotal:	*50*
Total Trusses:	*235*

[25] Bridge 1023880 is eligible as a cantilever span bridge and for its historical association. Therefore, it appears in both subtypes, but only once in the subtotal.

Table 4-1
Eligible Bridges by Type

Type/Subgroup	No.
Suspension Bridges	
Suspension Bridges	2
Total Suspension Bridges:	*2*

Total No. of Eligible Bridges: 481

Table 4-2
Eligible Bridges by Region

Region	Arches	Beams/ Girders	Movable Bridges	Trusses	Suspension Bridges	Total
1	13	6		28		47
2	10	8		28		46
3	20	6		19		45
4	14	5		10		29
5	10	5	3	10		28
6	4	3		13		20
7	16	8		59	1	84
8	29	13	1	26		69
9	9	3		37	1	50
10	5	6	4	1		16
11	24	11	8	4		47
Total:	154	74	16	235	2	481

The following presentation of results is arranged first by basic bridge type – arches, beams/ girders, movable bridges, trusses, and suspension bridges – and secondarily by subgroups that were identified within these types.

A. Arches

Three hundred ninety-nine arch bridges were evaluated to determine their eligibility for the National Register. Concrete, masonry, and steel arch bridges are found in New York. Only the design of concrete arches was standardized, and by 1912, the state offered local communities 20 standard plans for various widths and spans of concrete arches and recommended the arch design where local conditions were suitable.

In order to facilitate analysis within this bridge type, arch bridges were divided by subtype (concrete, masonry, and steel) to analyze their eligibility within the context of similar bridge types. Bridges within these subgroups were compared to identify candidates that meet or do not meet the National Register criteria. Specific features that contribute to eligibility of individual arches are discussed under the relevant section below.

(1) Concrete Arches

- 319 concrete arches
- 115 eligible
- 204 non-eligible

Concrete arches represent the majority of arch bridge types surveyed in New York. After four decades of use, the construction of this bridge type was standardized in New York after 1911. Concrete quickly became favored by the Department of Highways for its durability, ease of construction, and cost. Of the concrete arch bridges in the survey pool, 91 percent date from the period of standardization. In 1926, the Department of Public Works initiated broader state involvement in the construction of new bridges on state, town, and county roads. The newly established department made ample use of standard plans.

In order to facilitate analysis within this bridge type, concrete arches were subdivided into two groups: deck arches and half-through arches. Deck arches were further subdivided into open spandrel and filled spandrel.

Bridges within these subgroups were compared to identify candidates that meet or do not meet the National Register criteria. Bridges with known historical associations were assessed under *Criterion A* to determine whether they represent a significant activity, event, or trend.

Factors that were considered in assessing eligibility under *Criterion C* included ability to convey features of the type, evolution of the bridge type, individuality or significant variations, unusual materials, high artistic value, and significant examples of the work of a master builder.

(a) Deck Arches

- *Open Spandrel Deck Arches*
  - 9 open spandrel deck arches
  - 9 eligible
  - 0 non-eligible

Open spandrel, concrete deck arches were evaluated to determine their eligibility for the National Register. Due to their small number, these bridges potentially represent uncommon or innovative examples of the concrete arch type. All nine bridges, which were built post-standardization, are considered to be eligible unless they have a significant integrity problem.

Two open spandrel deck arches possess significant historical associations and are recommended as eligible for the National Register under *Criterion A-1*. One bridge was identified by the local community as having local historical significance. The other bridge is associated with Depression-era work relief programs.

Two bridges, which are those eligible under *Criterion A-1*, possess high artistic values and are recommended as eligible for the National Register under *Criterion C-4*. They each express artistic distinction through decorative lighting, parapets, and added concrete features.

As concrete deck arches with open spandrels, nine bridges demonstrate individuality or significant features within the concrete deck arch type and are recommended as eligible for the National Register under *Criterion C-6*. These nine bridges include the two recommended as eligible under *Criterion A-1* and *Criterion C-4*. In addition, five of these bridges have multiple spans, another significant variation within the concrete deck arch bridge type.

Although two open spandrel deck arches have integrity problems, they are still able to convey their historical significance. One bridge (eligible under *Criterion C-6*) has been widened with additional members, and one bridge (eligible under *Criteria A-1*, *C-4*, and *C-6*) has had its parapets removed.

Eligible Open Spandrel Deck Arches

BIN	Region	County	Eligibility Criterion	Explanation
1001380	5	Erie	C-6	Open spandrel, multiple span.
1005430	8	Columbia	C-6	Open spandrel, multiple span.
1020920	9	Schoharie	C-6	Open spandrel.
2020440	8	Ulster	C-6	Open spandrel.
2221890	7	St. Lawrence	A-1 C-4 C-6	Historical significance to local community. Decorative lighting, parapets. Open spandrel, multiple span.
2226120	9	Broome	A-1 C-4 C-6	Depression-era work relief program. Decorative lighting, parapets, and added features. Open spandrel, multiple span.
3335410	6	Tioga	C-6	Open spandrel, multiple span.
3341030	7	St. Lawrence	C-6	Open spandrel.
3363490	7	St. Lawrence	C-6	Open spandrel.

- *Filled Spandrel Deck Arches*
  - 308 filled spandrel deck arches
  - 104 eligible
  - 204 non-eligible

Filled spandrel concrete deck arches were evaluated to determine their eligibility for the National Register. Twenty-nine of these bridges date from the pre-standardization period. Because these bridges date to the early years of concrete arch construction, they represent a group of structures built as the type was evolving. These bridges may represent uncommon or innovative examples of the type or be good examples of the concrete deck arch as it came to be built. Pre-standardization bridges are considered to be eligible unless they have a significant integrity problem.

Post-1911 filled spandrel concrete deck arches were built during the period of standardization and may possess structural elements common to this type. Pre-1926 filled spandrel, concrete deck arches represent the early period of bridge standardization in New York and are considered to be eligible unless they have a significant integrity problem. Post-1925 filled spandrel, concrete deck arches were strongly influenced by standardization and are recommended as non-eligible unless they possess special features,

such as a known historical association, high artistic value, or individuality or variations of features within the bridge type.

Most post-1925 filled spandrel, concrete deck arches with integrity problems are considered ineligible for the National Register. An exception would be bridges that demonstrate individuality or a significant variation, or possess a significant historical association, while still being able to convey their historical significance.

Nine filled spandrel deck arches possess significant historical associations and are recommended as eligible for the National Register under *Criterion A-1*. Six of these bridges are associated with Depression-era work relief programs, two bridges were identified by the local communities as having local historical significance, and one bridge was built as a memorial bridge.

Seven bridges, including one bridge eligible under *Criterion A-1*, possess high artistic values and are recommended as eligible for the National Register under *Criterion C-4*. These bridges express artistic qualities through various means such as decorative arches, lighting, and parapets; added features; and decorative stone veneer.

Bridges exhibiting features common to the filled spandrel deck arch type are potentially eligible under *Criterion C*. Common elements of this bridge type include:

- Built as single barrel vaults
- Parapets
- Stone veneer
- Decorative arches
- Recessed panels

Fifteen pre-standardization, filled spandrel deck arches, including one bridge eligible under *Criterion C-4*, visually convey the features common to this bridge type and are recommended as eligible for the National Register under *Criterion C-5*.

Fifty-five filled spandrel deck arches, including one bridge eligible under *Criterion A-1* and three bridges eligible under *Criterion C-4*, date to the early period of standardization, 1912-1925, and are recommended as eligible for the National Register under *Criterion C-5*.

Thirty-six multiple-span bridges, including 15 bridges eligible under *Criterion C-5* for dating to the period of early standardization (one of which is also eligible under *Criterion A-1*), demonstrate a significant variation of features within the bridge type and are recommended as eligible for the National Register under *Criterion C-6*.

Five post-standardization bridges, including two that date to 1912-1925 and are eligible under *Criterion C-5*, demonstrate individuality within the bridge type during the period of standardization and are recommended as eligible for the National Register under *Criterion C-6*. These bridges demonstrate individuality through such features as unusual arch forms, decorative lighting, and unusual or decorative parapets.

One hundred and seventeen post-1925 filled spandrel deck arches represent common examples of an established type and are recommended as non-eligible for the National Register. These bridges do not display innovations in material or design, and they do not have known historical associations (as identified through contextual study research and questionnaire responses).

Alterations that may affect the integrity of filled spandrel deck arch bridges include:

- Change in rail or parapet
- Parapet removed
- Added main members
- Widened or lengthened with additional members
- Filled under arch rib

Eighty-seven bridges are recommended as non-eligible for the National Register because they are no longer able to convey their historical significance due to a lack of integrity. Twelve of these bridges date from the period of pre-standardization and 15 date to the early period of standardization.

Eligible Filled Spandrel Deck Arches

BIN	Region	County	Eligibility Criterion	Explanation
1001220	5	Chautauqua	C-4	Decorative arches and stone veneer.
1001660	4	Genesee	C-5	Dates to period of early standardization.
1006340	8	Dutchess	A-1	Depression-era work relief program.
1007470	1	Greene	C-6	Multiple span.
1009600	7	Lewis	C-5	Dates to period of early standardization.
1014830	4	Monroe	C-6	Multiple span.
1018630	3	Cortland	A-1	Depression-era work relief program.
1018700	3	Cortland	C-5 C-6	Dates to period of early standardization. Multiple span.

Eligible Filled Spandrel Deck Arches

BIN	Region	County	Eligibility Criterion	Explanation
1028850	4	Orleans	C-5 C-6	Dates to period of early standardization. Decorative lighting and unusual decorative parapets.
1032800	7	St. Lawrence	C-5 C-6	Dates to period of early standardization. Multiple span.
1034290	3	Tompkins	C-6	Multiple span.
1035970	4	Monroe	C-6	Multiple span.
1036660	3	Cayuga	C-5	Exhibits features common to type.
1036670	3	Cayuga	C-5	Dates to period of early standardization.
1037150	8	Westchester	C-6	Beveled arch and decorative stone veneer.
1044220	5	Erie	C-6	Multiple span.
1048270	7	St. Lawrence	C-5 C-6	Dates to period of early standardization. Multiple span.
1048280	7	St. Lawrence	C-5	Dates to period of early standardization.
1050420	8	Rockland	C-6	Multiple span.
1062450	4	Livingston	C-5 C-6	Dates to period of early standardization. Multiple span.
1063890	4	Monroe	C-5 C-6	Dates to period of early standardization. Multiple span.
1065030	11	Queens	C-6	Multiple span.
1074760	6	Steuben	C-5 C-6	Dates to period of early standardization. Multiple span.
2076129	11	Bronx	C-6	Multiple span.
2200300	1	Albany	C-5	Exhibits features common to type.
2200390	1	Albany	C-6	Multiple span.
2200650	1	Greene	C-5	Dates to period of early standardization.
2201820	1	Rensselaer	C-5	Dates to period of early standardization.
2206460	2	Oneida	C-6	Multiple span.
2206640	2	Oneida	C-5	Dates to period of early standardization.
2208500	3	Onondaga	C-5	Exhibits features common to type.
2211050	4	Monroe	C-6	Multiple span.

Eligible Filled Spandrel Deck Arches

BIN	Region	County	Eligibility Criterion	Explanation
2213280	5	Erie	C-5 C-6	Dates to period of early standardization. Multiple span.
2219620	7	Clinton	C-5 C-6	Dates to period of early standardization. Use of local stone and decorative lighting.
2221230	7	St. Lawrence	C-5	Dates to period of early standardization.
2222290	8	Columbia	C-5	Exhibits features common to type.
2224030	8	Putnam	C-5	Dates to period of early standardization.
2225110	8	Westchester	A-1 C-4	Depression-era work relief program. Decorative arches, stone veneer, and added features.
2226140	9	Broome	A-1 C-5 C-6	Built as memorial bridge. Dates to period of early standardization. Multiple span.
2230287	11	Bronx	C-6	Multiple span.
2230310	11	Kings	C-6	Multiple span.
2231840	11	Queens	C-6	Multiple span.
2231910	11	Queens	C-6	Multiple span.
2242010	11	Bronx	C-5	Exhibits features common to type.
2242071	11	Bronx	C-5	Dates to period of early standardization.
2242072	11	Bronx	C-5	Dates to period of early standardization.
2242081	11	Bronx	C-5	Dates to period of early standardization.
2242082	11	Bronx	C-5	Dates to period of early standardization.
2242099	11	Bronx	C-5	Dates to period of early standardization.
2242319	11	Bronx	C-5	Dates to period of early standardization.
2242350	11	Bronx	C-4 C-5	Decorative arches, spandrels, and parapets. Dates to period of early standardization.
2242400	11	Bronx	C-5	Dates to period of early standardization.
2242440	11	Bronx	C-4 C-5	Decorative arches, stone veneer, parapets, and added features. Dates to period of early standardization.
2242459	11	Bronx	C-5	Exhibits features common to type.

Eligible Filled Spandrel Deck Arches

BIN	Region	County	Eligibility Criterion	Explanation
2246980	11	New York	C-4 C-5	Decorative arches, parapets, and lighting. Dates to period of early standardization.
2247400	11	Queens	C-5	Dates to period of early standardization.
2247410	11	Queens	C-5	Dates to period of early standardization.
2247420	11	Queens	C-5	Dates to period of early standardization.
2249800	11	Richmond	C-5	Exhibits features common to type.
2255010	6	Chemung	C-5	Exhibits features common to type.
2260540	5	Erie	C-5	Exhibits features common to type.
2260680	5	Erie	C-5 C-6	Dates to period of early standardization. Multiple span.
2261240	10	Nassau	C-5	Exhibits features common to type.
2261390	10	Suffolk	C-5	Exhibits features common to type.
2261400	10	Suffolk	C-5	Exhibits features common to type.
2261610	10	Suffolk	C-5	Dates to period of early standardization.
2262650	10	Suffolk	C-5	Exhibits features common to type.
2264100	8	Ulster	C-5	Dates to period of early standardization.
2265470	8	Westchester	C-4	Decorative arches, stone veneer, and parapets.
2269240	11	New York	C-4 C-5	Decorative arches, stone veneer, and parapets. Exhibits features common to type.
3203660	1	Washington	C-5	Dates to early period of standardization.
3210250	3	Tompkins	C-5	Dates to early period of standardization.
3224280	8	Ulster	C-5	Dates to early period of standardization.
3301700	1	Essex	C-6	Multiple span.
3301890	1	Essex	C-5 C-6	Dates to early period of standardization. Multiple span.
3303890	1	Rensselaer	C-5	Dates to early period of standardization.
3306360	1	Washington	C-5 C-6	Dates to early period of standardization. Multiple span.

Eligible Filled Spandrel Deck Arches

BIN	Region	County	Eligibility Criterion	Explanation
3308480	2	Madison	A-1	Historical significance to local community.
3310800	2	Oneida	C-5 C-6	Dates to early period of standardization. Multiple span.
3312050	3	Cortland	C-6	Multiple span.
3312320	3	Cortland	C-5	Dates to early period of standardization.
3313200	3	Onondaga	C-5 C-6	Dates to early period of standardization. Multiple span.
3314400	3	Tompkins	A-1	Historical significance to local community.
3317270	4	Monroe	C-5	Dates to early period of standardization.
3319320	4	Orleans	C-5	Dates to early period of standardization.
3327220	5	Erie	C-6	Multiple span.
3327330	5	Erie	C-5 C-6	Dates to early period of standardization. Multiple span.
3336190	7	Clinton	C-5	Exhibits features common to type.
3340910	7	St. Lawrence	C-6	Multiple span.
3341240	7	St. Lawrence	C-6	Multiple span.
3347320	8	Ulster	C-5 C-6	Dates to early period of standardization. Multiple span.
3348030	8	Westchester	C-5	Dates to early period of standardization.
3348590	8	Westchester	C-5	Dates to early period of standardization.
3355020	9	Schoharie	C-5	Dates to early period of standardization.
3360180	8	Orange	C-5	Dates to early period of standardization.
3360460	3	Oswego	C-6	Multiple span.
3363470	7	St. Lawrence	C-5	Dates to early period of standardization.
3363500	7	St. Lawrence	C-5	Dates to early period of standardization.
3365780	3	Seneca	C-5	Dates to early period of standardization.
5035790	4	Livingston	A-1	Depression-era work relief program.
5035800	4	Wyoming	C-6	Distinctive rubble veneer, decorative arches, and added features.
5035830	4	Wyoming	C-6	Distinctive rubble veneer, decorative arches, and added features.

Eligible Filled Spandrel Deck Arches

BIN	Region	County	Eligibility Criterion	Explanation
5521360	3	Tompkins	A-1	Depression-era work relief program.
5521370	3	Tompkins	A-1	Depression-era work relief program.

(b) Half-Through Arches

- 2 half-through arches
- 2 eligible
- 0 non-eligible

These two bridges possess high artistic values and are recommended as eligible for the National Register under *Criterion C-4*. In addition, as half-through arches, they demonstrate a significant, rare variation within the concrete arch bridge type and are recommended as eligible for the National Register under *Criterion C-6*.

Eligible Half-Through Arches

BIN	Region	County	Eligibility Criterion	Explanation
3309490	2	Montgomery	C-4 C-6	Decorative parapets and arch form. Half-through.
3309740	2	Montgomery	C-4 C-6	Decorative parapets and arch form. Half-through.

(2) Masonry Arches

- 73 masonry arches
- 32 eligible
- 41 non-eligible

Seventy-three masonry arch bridges were evaluated to determine their eligibility for the National Register. Despite the standardization of bridge designs after 1908, which led to the increasing use of concrete and steel as a building material, and the time-consuming and expensive nature of masonry arch construction, masonry arch bridges continued to be constructed into the mid-twentieth century when suitable materials and labor were available. Since the construction of masonry arch bridges was never standardized, these

bridges potentially represent uncommon or innovative examples of the type, as well as good examples of the type as it was built. Masonry arch bridges are considered to be eligible unless they have a significant integrity problem.

Three masonry arch bridges possess significant historical associations and are recommended as eligible for the National Register under *Criterion A-1*. These bridges were identified by local communities as having local historical significance.

Three bridges, including one of those eligible under *Criterion A-1*, possess high artistic values and are recommended as eligible for the National Register under *Criterion C-4*. They express artistic distinction through factors such as unique forms and decorative stone work, arches, and parapets.

Bridges exhibiting features common to the masonry arch bridge type are potentially eligible under *Criterion C*. Common elements of this bridge type include:

- Built as single barrel vaults
- Ashlar or rubble construction
- Use of different types of stone
- Parapets
- Decorative voussoirs
- Keystones

Twenty-seven masonry arch bridges, including two of those eligible under *Criterion A-1* and two bridges eligible under *Criterion C-4*, visually convey the features common to this bridge type and are recommended as eligible for the National Register under *Criterion C-5*.

Five bridges, including one bridge that is also eligible under both *Criteria A-1* and *C-4*, demonstrate individuality or significant variations of features within the bridge type and are recommended as eligible for the National Register under *Criterion C-6*. Three of these arches use brick and two are viaduct bridges.

Alterations that may affect the integrity of masonry arch bridges include:

- Change or removal of parapet
- Added main members
- Widened with additional members
- Added concrete veneer over stone

Although 11 masonry arch bridges have integrity problems, they are still able to convey their historical significance. Forty-one masonry arch bridges are recommended as non-eligible for the National Register because they are no longer able to convey their historical significance due to a lack of integrity. One of these bridges possesses a historical association (it was identified by the local community), but it has been widened to the point that its historic integrity has been lost.

Eligible Masonry Arches

BIN	Region	County	Eligibility Criterion	Explanation
1000040	8	Westchester	C-5	Exhibits features common to type.
1000122	8	Westchester	C-5	Exhibits features common to type.
1001650	5	Erie	C-5	Exhibits features common to type.
1007820	9	Delaware	C-5	Exhibits features common to type.
1018020	1	Greene	C-5	Exhibits features common to type.
1026490	2	Herkimer	C-5	Exhibits features common to type.
1027310	7	St. Lawrence	C-6	Unusual form – viaduct.
2203070	1	Schenectady	C-5	Exhibits features common to type.
2204600	2	Herkimer	C-5	Exhibits features common to type.
2206630	2	Oneida	C-5	Exhibits features common to type.
2207130	3	Cayuga	C-5	Exhibits features common to type.
2208530	3	Onondaga	C-5	Exhibits features common to type.
2208560	3	Onondaga	C-5	Exhibits features common to type.
2210710	4	Wayne	C-5	Exhibits features common to type.
2223110	8	Orange	C-5	Exhibits features common to type.
2223610	8	Orange	C-5	Exhibits features common to type.
2225180	8	Westchester	C-6	Unusual material – brick.
2225290	8	Westchester	C-5	Exhibits features common to type.
2230250	11	Bronx	C-5	Exhibits features common to type.
2256077	4	Monroe	A-1 C-4 C-6	Historical significance to local community. Decorative stone work and classical viaduct form. Unusual form – viaduct.
2262670	8	Dutchess	C-5	Exhibits features common to type.

Eligible Masonry Arches

BIN	Region	County	Eligibility Criterion	Explanation
2262690	8	Dutchess	C-6	Unusual material – brick.
2263190	9	Schoharie	C-5	Exhibits features common to type.
2265280	8	Westchester	C-4 C-5	Decorative stone work and parapets. Exhibits features common to type.
3201020	1	Greene	C-5	Exhibits features common to type.
3224170	8	Rockland	C-6	Unusual material – brick.
3308890	2	Madison	A-1 C-5	Historical significance to local community. Exhibits features common to type.
3353310	9	Delaware	C-4 C-5	Decorative arches, stone work, and parapets. Exhibits features common to type.
3356480	9	Sullivan	C-5	Exhibits features common to type.
3363280	7	Clinton	C-5	Exhibits features common to type.
5522030	5	Niagara	A-1 C-5	Historical significance to local community. Exhibits features common to type.
5524490	8	Westchester	C-5	Exhibits features common to type.

(3) Steel Arches

- 7 steel arches
- 7 eligible
- 0 non-eligible

Seven steel arch bridges were evaluated to determine their eligibility for the National Register. Steel arch construction was never standardized. Due to their rarity, these bridges are considered to be eligible unless they have a significant integrity problem. No such problems were identified.

One bridge possesses a significant historical association and is recommended as eligible for the National Register under *Criterion A-1*. This bridge was identified by the local community as having local historical significance.

Five bridges, including the one eligible under *Criterion A-1*, visually convey the features common to this bridge type and are recommended as eligible for the National Register under *Criterion C-5*. Common elements of this bridge type include:

- Uses hinge or hingeless (fixed) system
- Open spandrels
- Spandrels support steel floor system and concrete deck
- Two arch rib members
- Ribs formed with I-beams tied with plates and angles, girders, or riveted trusses
- Members are bolted, riveted, or welded

Two arches demonstrate significant variations within the bridge type and are recommended as eligible for the National Register under *Criterion C-6*. One bridge is a half-through arch. The second bridge has filled spandrels supporting an integrated floor and deck system.

Eligible Steel Arches

BIN	Region	County	Eligibility Criterion	Explanation
1006310	8	Putnam	C-5	Exhibits features common to type.
1023380	3	Tompkins	A-1 C-5	Historical significance to local community. Exhibits features common to type.
1041200	8	Ulster	C-6	Half-through.
2210630	3	Tompkins	C-5	Exhibits features common to type.
3332580	6	Schuyler	C-5	Exhibits features common to type.
3348900	8	Westchester	C-6	Filled spandrels.
5228730	9	Sullivan	C-5	Exhibits features common to type.

B. Beams/Girders

With 865 examples evaluated, almost half of the entire pool of evaluated bridges, the beam/girder is by far the most common bridge type found in New York. The beam/girder bridge type emerged in New York at the end of the nineteenth century. The early twentieth century witnessed a period of growing state influence over bridge construction and the beginning of implementation of standardized plans. Plan standardization began in New York in 1908 after passage of the Highway Law of 1908 and the establishment of the New York State Department of Highways. The new state agency furnished standard plans to town and county officials that

were used with increasing frequency statewide. The dates for standardization vary by bridge type. For example, rolled beams were standardized by 1909, but jack arches did not become standardized until the 1920s. The use of standard plans increased annually after their introduction and had taken firm hold by 1930.

Standardization facilitated the proliferation of beams and girders, resulting in the construction of large numbers of virtually identical bridges across the state. Due to the large number of examples of beams and girders, any example of this type of structure with an integrity problem is considered ineligible for the National Register. Common types of integrity problems include: added or removed main members, change in parapet or parapet removed, and lengthening with additional members.

In order to facilitate analysis within this common bridge type, beam and girder bridges were first divided into two groups: pre-1930 and post-1929. This division allows for bridges constructed during different phases of the development of the beam/girder type to be evaluated within their developmental contexts. The bridges were further subdivided by specific type (e.g., jack arch, rolled beam) to facilitate the analysis of smaller groups of bridges against other similar structures. Specific features that contribute to the eligibility of individual beams and girders are discussed in the relevant sections below.

(1) Pre-1930 Beams/Girders

- 141 pre-1930 beams and girders
- 47 eligible
- 94 non-eligible

Beams and girders constructed prior to 1930 were evaluated as a group to identify individual candidates that should be considered eligible for the National Register. Pre-1930 beams and girders were broken down into subgroups to analyze their eligibility within the context of similar bridge types. These subgroups include:

- Jack Arches
- Plate Girders
- Rigid Frames [26]
- Rolled Beams
- Slabs
- T-Beams
- Timber Beams

[26] Although rigid frames are not by definition a beam/girder bridge type, they are included within this type for simplicity of analysis. Like beam/girder bridge types, standard plans became widely available for rigid frames.

Bridges within these subgroups were compared to identify candidates that meet or do not meet the National Register criteria. Bridges with known historical associations were assessed under *Criterion A* to determine whether they represent a significant activity, event, or trend.

Factors that were considered in assessing eligibility under *Criterion C* included ability to convey features of the type, evolution of the bridge type, significant variations, unusual materials, high artistic value, and significant examples of the work of a master builder. Examples of bridges that meet *Criterion C* include:

- A jack arch that conveys features common to the type
- An early example of a continuous plate girder span
- A concrete slab exhibiting the innovative use of transverse stiffeners
- An early timber beam for its unusual type
- A rolled beam with decorative balustrade and lighting that displays high artistic value

(a) Jack Arches

- 39 pre-1930 jack arches
- 10 eligible
- 29 non-eligible

Pre-1930 jack arches that retain historic integrity were evaluated to determine their eligibility for the National Register. The construction of jack arch bridges was standardized in New York in the 1920s. Eleven jack arches date from the pre-standardization period. Because these bridges date to the early years of jack arch construction, they represent a group of structures built as the type was evolving. These bridges potentially represent uncommon or innovative examples of the type, as well as good examples of the jack arch as it came to be constructed. Standardization of the jack arch effectively eliminated the further evolution of this common bridge type. Jack arches built after standard plans had been implemented form a large group of bridges that vary little from each other and are considered non-eligible unless they possess a special feature such as a historical association or high artistic value.

One jack arch bridge possesses a significant historical association and is recommended as eligible under *Criterion A-2*. This unusually wide bridge represents the historic trend of accommodating multiple modes of transportation, as evidenced by the railroad tracks it once carried.

Bridges exhibiting features common to the jack arch type are potentially eligible under *Criterion C*. Common elements of this bridge type include:

- Steel beams encased in concrete
- Void between beams is filled with an arch-shaped concrete filler slab
- Visible form work, typically corrugated iron
- Parapets

Ten pre-standardized bridges, including the bridge eligible under *Criterion A-2*, visually convey the features common to this bridge type and are recommended as eligible for the National Register under *Criterion C-5*. One pre-standardized example does not possess a parapet, one of the features that defines the jack arch, and is non-eligible for the National Register.

During the 1920s, jack arch construction moved towards standardization and away from experimentation. Twenty-eight of the 29 bridges recommended non-eligible date from the 1920s and the period of standardization. Structurally, these jack arches do not display innovations in materials or design. None of these bridges have known historical associations (as identified through contextual study research and questionnaire responses). The 28 post-standardization bridges represent common examples of an established type and are recommended as non-eligible for the National Register.

Eligible Jack Arches

BIN	Region	County	Eligibility Criterion	Explanation
2003060	8	Orange	C-5	Exhibits features common to the type.
2204490	2	Hamilton	C-5	Exhibits features common to the type.
2211940	5	Cattaraugus	C-5	Exhibits features common to the type.
2225120	8	Westchester	C-5	Exhibits features common to the type.
2226940	9	Delaware	C-5	Exhibits features common to the type.
2241020	11	Bronx	A-2 C-5	Accommodated multiple modes of transportation. Exhibits features common to type.
2241860	11	Bronx	C-5	Exhibits features common to the type.
2255020	6	Chemung	C-5	Exhibits features common to the type.
2257090	2	Fulton	C-5	Exhibits features common to the type.
3307720	2	Herkimer	C-5	Exhibits features common to the type.

(b) Plate Girders

- 29 pre-1930 plate girders
- 10 eligible
- 19 non-eligible

Pre-1930 plate girders that retain historic integrity were evaluated to determine their eligibility for the National Register. The construction of plate girder bridges was standardized in New York by 1909. Eight plate girders date from the pre-standardization period. Because these bridges date to the early years of plate girder construction, they represent a group of structures constructed as the type was evolving. These bridges may represent uncommon or innovative examples of the type or be good examples of a plate girder as it came to be constructed. Standardization of the plate girder allowed this type to be mass-produced using standard plans. Plate girders built after standard plans had been implemented form a large group of bridges that vary little from each other and are considered non-eligible unless they possess a special feature such as a historical association or high artistic value.

Two 1920 plate girders represent the important trend of elevated roadway construction and possess high artistic value. These bridges meet *Criterion A-2* for their association with the development of New York City's elevated roadway system.[27]

Bridges displaying features common to the plate girder type are potentially eligible under *Criterion C*. Plate girder bridges consist of:

- Steel beams or plates laid horizontally
- Beams utilized for the deck and as an integral structural component

The two bridges determined eligible under *Criterion A-2* also meet *Criterion C-4* for the aesthetic value of the decorative parapets applied to them. Seven pre-1909 plate girders are recommended eligible for the National Register under *Criterion C-5* for their ability to convey the significant features common to the type. One other pre-standardized plate girder, which is constructed of iron, demonstrates an important development in the evolution of this bridge type and is recommended eligible under *Criterion C-7*.

After 1909, plate girder design was standardized. Standardization and the proliferation of this bridge type resulted in the mass production of this bridge type. The remaining 19 plate girders in the population for which eligibility was assessed were built between 1912

[27] Elevated roadways were excluded from the inventory if they have nine or more spans and are functionally classified as an interstate, freeway, or major arterial. These two bridges did not meet the exclusion criteria.

and 1929. These plate girders represent a common bridge type in New York and do not display innovations in materials or design. None of these bridges have known historical associations (as identified through contextual study research and questionnaire responses). The 19 post-standardization plate girders are common examples of their type with no distinguishing features and are recommended as non-eligible for the National Register.

Eligible Plate Girders

BIN	Region	County	Eligibility Criterion	Explanation
2241210	11	Bronx	C-5	Exhibits features common to the type.
2244421	11	Kings	C-5	Exhibits features common to the type.
2245460	11	New York	A-2	Associated with development of elevated roadway system.
			C-4	Decorative parapets.
2245470	11	New York	A-2	Associated with development of elevated roadway system.
			C-4	Decorative parapets.
2247290	11	Queens	C-5	Exhibits features common to the type.
2247590	11	Queens	C-5	Exhibits features common to the type.
2263760	2	Herkimer	C-5	Exhibits features common to the type.
3316310	4	Livingston	C-7	Iron construction material.
3321900	5	Cattaraugus	C-5	Exhibits features common to the type.
7701710	1	Albany	C-5	Exhibits features common to the type.

(c) Rigid Frames

- 1 pre-1930 rigid frame
- 1 eligible
- 0 non-eligible

One pre-1930 rigid frame retains historic integrity and was evaluated to determine its eligibility for the National Register.[28] The use of the rigid frame in concrete construction

[28] Presumably, few pre-1930 rigid frame bridges are included in this inventory because most are components of excluded parkways. Bridges on parkways that have been previously determined eligible or non-eligible were excluded from this inventory.

began in the United States in 1922 when this bridge type was adopted for use on Westchester County parkways.

A bridge possessing the features common to the rigid frame type is potentially eligible under *Criterion C*. Elements of this bridge type include:

- Deck and abutments are a continuous form poured monolithically
- Generally spans up to 100 feet
- Concrete construction

This rigid frame is recommended as eligible for the National Register under *Criterion C-5* for its ability to convey the significant features common to the type.

Eligible Rigid Frame

BIN	Region	County	Eligibility Criterion	Explanation
3348250	8	Westchester	C-5	Exhibits features common to the type.

(d) Rolled Beams

- 44 pre-1930 rolled beams
- 17 eligible
- 27 non-eligible

Forty-four pre-1930 rolled beams retain historic integrity and were evaluated to determine their eligibility for the National Register. The construction of rolled beams was standardized in New York by 1909. Fourteen rolled beams date to the pre-standardization period. Because these bridges date to the early years of rolled beam construction, they represent a group of structures built as the type was evolving. These bridges potentially represent uncommon or innovative examples of the type, as well as good examples of the rolled beam as it came to be understood. Rolled beams built after the implementation of standardized plans form a large group of mass-produced bridges that typically vary little from each other and are considered non-eligible unless they possess a special feature such as a historical association or high artistic value.

One pre-standardized rolled beam is considered to meet *Criterion A-1* for its historical significance to the local community.

Bridges exhibiting features common to the rolled beam type are potentially eligible under *Criterion C*. Often categorized with girders, stringers, or multi-beam bridges, a rolled beam is defined as:

- A short span, typically less than 80 feet
- Constructed using rolled beam sections

One rolled beam displays decorative lighting and a decorative parapet, and is recommended as eligible under *Criterion C-4* for its high artistic value.

Twelve pre-standardization rolled beams, including the bridge recommended eligible under *Criterion A-1*, are recommended as eligible for the National Register under *Criterion C-5* for their ability to convey the significant features common to this type. Four rolled beams meet *Criterion C-6* for their ability to demonstrate significant variations within this bridge type. Although most of the pre-1930 rolled beams use multi-beam construction, these four examples display two parallel beams joined by the floor joists. Three of these bridges were built prior to standardization.

After 1909, rolled beam construction moved away from innovation and towards standardization. Twenty-seven post-standardization bridges do not display innovations in materials or design, are not known to possess a significant historic association, and are common examples of an established bridge type. These rolled beams are recommended non-eligible for the National Register.

Eligible Rolled Beams

BIN	Region	County	Eligibility Criterion	Explanation
2200100	10	Suffolk	C-6	Parallel beams joined by the floor joists.
2203520	1	Warren	C-5	Exhibits features common to the type.
2206180	2	Oneida	C-5	Exhibits features common to the type.
2210500	3	Tompkins	C-4	Decorative lighting and parapet.
2241040	11	Bronx	C-5	Exhibits features common to the type.
2261140	10	Suffolk	C-6	Parallel beams joined by the floor joists.
2261200	10	Nassau	C-5	Exhibits features common to the type.
2261210	10	Nassau	C-5	Exhibits features common to the type.
3201190	1	Greene	C-5	Exhibits features common to the type.
3209040	3	Oswego	A-1 C-5	Historical significance to local community. Exhibits features common to the type.

Eligible Rolled Beams

BIN	Region	County	Eligibility Criterion	Explanation
3220840	7	St. Lawrence	C-5	Exhibits features common to the type.
3316270	4	Livingston	C-6	Parallel beams joined by the floor joists.
3323170	5	Cattaraugus	C-5	Exhibits features common to the type.
3331680	6	Chemung	C-6	Parallel beams joined by the floor joists.
3342950	8	Dutchess	C-5	Exhibits features common to the type.
3350490	9	Chenango	C-5	Exhibits features common to the type.
7701680	3	Oswego	C-5	Exhibits features common to the type.

(e) Slabs

- 16 pre-1930 slabs
- 2 eligible
- 14 non-eligible

Sixteen pre-1930 slabs retain historic integrity and were evaluated to determine their eligibility for the National Register. Invented in 1900 by Swiss engineer Robert Maillart, flat-slab construction contributed to the innovation of concrete construction.[29] The construction of slab bridges was standardized in New York by 1909. Two slabs dating from the pre-standardization period remain extant. Because these bridges date to the early years of slab construction, they represent a group of bridges built while the type was evolving. These bridges may represent uncommon or innovative variants of the type, or be good examples of a slab as it came to be constructed. Standardization of slab bridges effectively eliminated the further evolution of this common bridge type. Slabs built after standardization represent a large group of bridges that vary little from each other and are considered non-eligible unless they possess a special feature such as a historical association or high artistic value.

[29] Maillart's work is discussed in Carl W. Condit, *American Building: Materials and Techniques From the First Colonial Settlements to the Present* (Chicago: The University of Chicago Press, 1968), 243.

Bridges displaying features common to the slab bridge type are potentially eligible under *Criterion C*. Common elements of this type of bridge include:

- Constructed of a rigid, horizontal piece that serves as the deck and a structural member
- Deck carries stresses to the abutments and/or piers
- Simple and economical concrete bridge design
- Favored for shorter spans

One slab, which dates from the pre-standardization period, is recommended as eligible for the National Register under *Criterion C-5* for its ability to convey the significant features common to this bridge type. Another pre-standardized slab, which displays transverse stiffeners, is recommended as eligible under *Criterion C-6* for its ability to demonstrate significant variations within this bridge type.

The 14 remaining slabs in the population for which eligibility was assessed were built between 1922 and 1929. This group of slabs does not display innovations in materials or design, or possess high artistic value, and is not known to have a significant historical association. Additionally, these bridges were constructed after the period of standardization and are examples of a common bridge type constructed from a stock set of plans. These slabs are recommended as non-eligible for the National Register.

Eligible Slabs

BIN	Region	County	Eligibility Criterion	Explanation
1039500	7	Jefferson	C-5	Exhibits features common to the type.
3317380	4	Monroe	C-6	Transverse stiffeners.

(f) T-Beams

- 9 pre-1930 T-beams
- 4 eligible
- 5 non-eligible

Nine pre-1930 T-beams that retain historic integrity were evaluated to determine their eligibility for the National Register. Introduced in the first decade of the twentieth century, T-beams were popular from the 1920s to the late 1960s. By 1910, the state had issued standard designs for T-beam bridges. Two T-beam bridges date from the pre-standardization period. These bridges potentially represent good examples of the

bridge type as it came to be constructed or uncommon or innovative examples of the type. Standardization allowed for the proliferation of T-beam bridges constructed using a pre-determined set of plans that allowed for little variation between individual bridges. Due to their ubiquity, T-beams constructed after standardization are considered non-eligible unless they possess a special feature such as a historical association or high artistic value.

Bridges exhibiting features common to the T-beam type are potentially eligible for the National Register under *Criterion C*. Common elements of this bridge type include:

- Rectangular concrete "T-shaped" beams
- Beams support an integral deck slab or a cast-in-place concrete deck
- Deck is used for the roadway surface

Two T-beams display masonry veneers, decorative parapets, and decorative arches, and are recommended as eligible under *Criterion C-4* for their high artistic value.

Two T-beams, which date from the pre-standardization period, are recommended as eligible for the National Register under *Criterion C-5* for their ability to convey the features common to this bridge type.

After 1910, T-beam bridges were constructed using standard plans that resulted in little variation or innovation within the bridge type. Seven T-beams were built between 1920 and 1929, after standardization, including the two bridges recommended as eligible under *Criterion C-4*. The remaining five post-standardization T-beams are recommended non-eligible for the National Register. Structurally, these bridges do not display innovations in materials or design or possess high artistic value. None of these bridges have known historical associations (as identified through contextual study research and questionnaire responses).

Eligible T-Beams

BIN	Region	County	Eligibility Criterion	Explanation
1000121	8	Westchester	C-4	Masonry veneer, decorative parapet, decorative arch.
1023430	8	Westchester	C-5	Exhibits features common to the type.
2225280	8	Westchester	C-5	Exhibits features common to the type.
3348210	8	Westchester	C-4	Masonry veneer, decorative parapet, decorative arch.

(g) Timber Beams

- 3 pre-1930 timber beams
- 3 eligible
- 0 non-eligible

Three pre-1930 timber beams retain historic integrity and were evaluated to determine their eligibility for the National Register. After 1910, timber bridges fell out of favor in New York as the state increasingly began relying on concrete and steel for construction materials. Timber beams, because of their ephemeral construction material, require regular maintenance and replacement of deteriorating members. The replacement of original fabric on these bridges, if it is done using historically compatible materials, is not considered a detriment to a timber beam's potential for National Register eligibility. Since timber beam bridges from the pre-1930 period are uncommon and any replacement material on these spans consists of compatible wood members, the three intact bridges, which were constructed between 1900 and 1921, are recommended as eligible for the National Register under *Criterion C-5*.

Eligible Timber Beams

BIN	Region	County	Eligibility Criterion	Explanation
2220550	7	Lewis	C-5	Exhibits features common to the type.
2261160	10	Suffolk	C-5	Exhibits features common to the type.
2266010	7	St Lawrence	C-5	Exhibits features common to the type.

(2) Post-1929 Beams/Girders

- 724 post-1929 beams and girders
- 27 eligible
- 697 non-eligible

Beams and girders in the post-1929 group that retain integrity were also considered for National Register eligibility. Standardization resulted in the proliferation of beams and girders across the state. Post-1929 beams and girders may possess structural elements associated with their specific bridge types; however, because they were built using standard plans, most individual bridges do not represent significant examples of their respective types. Due to the ubiquity of post-1929 beams and girders, only select examples were identified as eligible for the National Register.

Post-1929 beams and girders were divided into subgroups to analyze their eligibility within the context of similar bridge types. These subgroups include:

- Bridges with Historical Associations
- Bridges with High Artistic Value
- Box Girders
- Cantilever Spans
- Continuous Spans
- Prestressed Concrete T-Beams

Bridges within these subgroups were compared to identify candidates that meet or do not meet the National Register criteria. Two hundred fifty-eight, post-1929 bridges were identified as potential candidates for National Register eligibility based on these subgroups. Because of the large number of post-1929 beams and girders, and the similarity of bridges within their subtypes, these bridges have to possess special features to merit eligibility for the National Register. As a result, the post-1929 subgroups include "Bridges with High Artistic Value" and "Bridges with Historical Associations" as separate analytical categories. Bridges with known historical associations were assessed under *Criterion A* to determine whether they represent a significant activity, event, or trend.

One bridge type, the box girder, was not standardized until after 1929. Examples of the box girder type could be eligible under *Criterion C* if a bridge conveys the features common to the type.

With the exception of the box girder, the remaining post-1929 bridge subgroups represent standardized construction. To be eligible under *Criterion C*, bridges within these subgroups had to demonstrate high artistic value, innovative support systems, the evolution of the bridge type, or significant technological advances. Examples of bridges that meet *Criterion C* include:

- Rolled beam with high artistic value
- Prestressed concrete box girder displaying the defining features of the type
- Cantilever-span plate girder with an innovative support system
- Continuous-span rigid frame conveying the evolution of the type
- T-beam displaying technological advances in its use of prestressed concrete

The 258 post-1929 bridges identified as potential candidates for National Register eligibility were targeted as possessing one or more special trait. The eligibility of individual bridges is assessed within the relevant subgroups below. The remaining 483 post-1929 beams/girders did not possess special traits and are recommended as non-eligible.

(a) Bridges with Historical Associations

- 21 post-1929 beams and girders with known historical associations
- 11 eligible due to significant historical associations
- 10 non-eligible due to insignificant historical associations

Twenty-one post-1929 beams and girders that have known historical associations retain historic integrity and were evaluated to determine their eligibility for the National Register. Eight of these bridges were identified by county historians and local groups in response to a questionnaire, and are considered to meet *Criterion A-1* for their historical significance to the local communities.[30] Three additional bridges are considered to meet *Criterion A-1* for their historical association with Depression-era work relief programs.

Ten bridges with historical associations are recommended as non-eligible. None of these ten bridges possess a historical association that makes them individually eligible for the National Register.

Eligible Bridges with Known Historical Associations

BIN	Region	County	Eligibility Criterion	Explanation
1007010	1	Essex	A-1	Historical significance to local community.
1023880	7	St. Lawrence	A-1	Historical significance to local community.
2209060	3	Oswego	A-1	Historical significance to local community.
2215400	6	Allegany	A-1	Depression-era funding.
3201220	1	Greene	A-1	Depression-era funding.
3210000	3	Tompkins	A-1	Historical significance to local community.
3301140	1	Albany	A-1	Historical significance to local community.
3319240	4	Orleans	A-1	Historical significance to local community.
3342220	8	Columbia	A-1	Historical significance to local community.
3343910	8	Dutchess	A-1	Historical significance to local community.
5524100	2	Oneida	A-1	Depression-era funding.

[30] Bridge 1023880 is also eligible under *Criterion C-7* as a cantilever span that conveys the evolution of the plate girder type.

(b) Bridges with High Artistic Value

- 135 post-1929 beams and girders with masonry veneer, decorative arch ring and/or decorative lighting
- 6 eligible due to ability to convey high artistic value
- 129 non-eligible due to inability to convey high artistic value

One hundred thirty-five post-1929 beams and girders that retain historic integrity were evaluated for National Register eligibility based solely on their potential artistic value. Based upon information from the contextual study, BIN file review, and field survey, it was determined that beam/girder bridges displaying a masonry veneer, decorative arch ring and/or decorative lighting were the most likely to possess high artistic value. Bridges with high artistic value were considered eligible if their treatments expressed an aesthetic ideal as related to a particular bridge type.

Of the 135 bridges, 111 are rigid frames, a bridge type that typically features a decorative arch ring and masonry veneer. The decorative treatment on these bridges is overwhelmingly standardized. None of the rigid frames are considered to possess high artistic value. Six post-1929 beams and girders – including one rolled beam, one T-beam, and four plate girders – are recommended as eligible for the National Register under *Criterion C-4* for their ability to convey high artistic value.

Eligible Bridges with High Artistic Value

BIN	Region	County	Eligibility Criterion	Explanation
2224130	8	Rockland	C-4	T-beam with masonry veneer and decorative parapet.
2230209	11	Queens	C-4	Plate girder with masonry veneer and decorative parapet.
2246710	11	New York	C-4	Rolled beam with decorative parapet and decorative lighting.
3326350	5	Erie	C-4	Plate girder with decorative parapet, masonry veneer, and decorative arch.
3346090	8	Rockland	C-4	Plate girder with masonry veneer and decorative parapet.
3346120	8	Rockland	C-4	Plate girder with masonry veneer and decorative parapet.

(c) Box Girders

- 5 box girders
- 5 eligible
- 0 non-eligible

Post-1929 box girders that retain historic integrity were evaluated to determine their eligibility for the National Register. The box girder form is a post-World War II development. Due to its adaptability to prefabrication and standardization, the box girder has become a popular bridge type. The features common to this type were not fully standardized until after 1960, when prestressed concrete became the norm for box girder construction. The five box girders evaluated for eligibility were constructed between 1957 and 1960. These bridges potentially represent uncommon or innovative examples of the type, as well as good examples of the box girder as it came to be constructed. None of the box girders evaluated for eligibility possessed a significant historical association.

Because of the late date for full standardization of box girders, bridges constructed prior to 1960 may be eligible for the National Register for their ability to convey features of the type. Bridges exhibiting features common to the box girder type are potentially eligible under *Criterion C*. Common elements of this bridge type include:

- Prestressed concrete box units
- Adaptability for various span lengths

Five box girders are recommended as eligible for the National Register under *Criterion C-5* for their ability to convey the features common to this bridge type.

Eligible Box Girders

BIN	Region	County	Eligibility Criterion	Explanation
1002970	2	Montgomery	C-5	Exhibits features common to the type.
1009310	9	Chenango	C-5	Exhibits features common to the type.
1010250	3	Tompkins	C-5	Exhibits features common to the type.
1034130	7	Clinton	C-5	Exhibits features common to the type.
3308010	2	Herkimer	C-5	Exhibits features common to the type.

(d) Cantilever Spans

- 6 post-1929 beams and girders with cantilever support system
- 2 eligible due to significant length achieved through cantilever support system
- 4 non-eligible due to insignificant length

The six post-1929 beams and girders with a cantilever support system that retain historic integrity were evaluated to determine their eligibility for the National Register. Cantilever spans became popular for medium-span beam/girder bridges because they reduced the number of substructures needed, saving both material and construction costs. As such, the use of cantilever spans for beams and girders was part of the evolution of these bridge types. Built between 1954 and 1960, these six bridges range in total length from 182 feet to 544 feet.

Cantilever spans that convey the evolution of their bridge types may be eligible under *Criterion C*. Common features of cantilever spans include:

- Span supported by bearing device, fixed hanger, or fixed pin and hanger
- Increased total length bridge type with cantilevered support system

Two bridges – a rolled beam and a plate girder – with cantilever spans are recommended as eligible under *Criterion C-7* for their ability to demonstrate the evolution of their respective bridge types.[31] These bridges use a cantilever support system to achieve a significant total length. A nine-span, 1958 rolled beam structure utilizes cantilevered design to span a total length of 544 feet. The second bridge recommended eligible is a six-span, 1956 plate girder using a cantilever system to span a total length of 520 feet.

Eligible Cantilever Spans

BIN	Region	County	Eligibility Criterion	Explanation
1023820	7	St. Lawrence	C-7	Rolled beam with cantilever span.
1023880	7	St. Lawrence	C-7	Plate girder with cantilever span.

[31] Bridge 1023880 is also eligible under *Criterion A* for its historical significance to the local community. One rolled beam with cantilever span, 1007010, does not convey the evolution of its type, but meets *Criterion A* for its historical significance to the local community. See *Bridges with Historical Associations*.

(e) Continuous Spans

- 86 post-1929 beams and girders with continuous spans
- 3 eligible due to significant length achieved through use of continuous spans
- 83 non-eligible due to insignificant length achieved through use of continuous spans

Eighty-six post-1929 beams and girders with continuous spans retain historic integrity and were evaluated to determine their eligibility for the National Register. Of these, 65 are constructed of steel, 18 are concrete, and 3 combine steel and concrete. Continuous bridges are best understood as variations of their basic subtypes rather than a separate bridge form.

Bridge subtypes exhibiting continuity that conveys the evolution of the type are potentially eligible under *Criterion C*. Common elements defining continuity include:

- Continuously fabricated superstructures
- Superstructure supported by concrete frame or piers at regular intervals

Three continuous-span bridges are recommended as eligible for the National Register under *Criterion C-7* for their ability to demonstrate the evolution of their respective bridge types.[32] The concrete bridges with continuous spans represent the slab, T-beam, and rigid frame types. The overall lengths of these bridges range from 49 feet to 199 feet. The 199-foot bridge exemplifies the evolution of the rigid frame type. The steel bridges with continuous spans represent the plate girder and rolled beam types. These bridges range in total length from 36 feet to 614 feet. Two of the steel bridges – a 1948 plate girder with a total length of 362 feet, and a 614-foot plate girder, built in 1956 – are recommended as eligible under *Criterion C-7* as examples of the evolution of their types.

The three bridges that combine steel and concrete have a variety of continuous and non-continuous spans. These bridges do not demonstrate the evolution of their respective types and are non-eligible under *Criterion C-7*.

[32] Two additional bridges with continuous spans, 3301140 and 3326350, do not convey the evolution of their types but are recommended as eligible for their historical association and artistic value, respectively. See *Bridges with Historical Associations* and *Bridges with High Artistic Value*.

Eligible Continuous Spans

BIN	Region	County	Eligibility Criterion	Explanation
1037700	7	St Lawrence	C-7	Plate girder with continuous span.
1058849	10	Suffolk	C-7	Rigid frame with continuous span.
2260420	5	Erie	C-7	Plate girder with continuous span.

(f) Prestressed Concrete T-Beams

- 6 prestressed concrete T-beams
- 1 eligible
- 5 non-eligible

Six post-1929 prestressed concrete T-beams retain historic integrity and were evaluated to determine their eligibility for the National Register. Prestressing involves compressing concrete with highly stressed wires or bars to improve its tensile strength. Although prestressing of concrete was introduced in the 1930s, a 1953 T-beam represents the earliest example of this technology in the bridge pool. The use of prestressed concrete for T-beams did not become common until 1960.

T-beams constructed using prestressed concrete are potentially eligible under *Criterion C-7* for their ability to convey the evolution of the bridge type. The 1953 bridge is recommended as eligible under *Criterion C-7* for its ability to convey the evolution of the T-beam bridge type. The remaining five bridges were built in 1958 or 1960 after prestressed concrete construction was well established. These bridges are non-eligible for the National Register.

Eligible Prestressed Concrete T-Beams

BIN	Region	County	Eligibility Criterion	Explanation
3320120	4	Wyoming	C-7	Prestressed concrete construction.

C. Movable Bridges

Sixteen movable bridges were evaluated to determine their eligibility for the National Register. In order to facilitate analysis within this bridge type, movable bridges were divided into four specific types to analyze their eligibility within the context of similar bridge types. These subgroups include:

- Bascule
- Lift
- Retractile
- Swing

Due to their rarity, all examples of bridges in these subgroups are considered to be eligible unless they have a significant integrity problem. Alterations identified among the movable bridges include replaced and added main members. However, no significant integrity problems were identified.

Bridges with known historic associations were assessed under *Criterion A* to determine whether they represent a significant activity, event, or trend.

Factors that were considered in assessing eligibility under *Criterion C* included ability to convey features of the type, evolution of the bridge type, significant variations, unusual materials, high artistic value, and significant examples of the work of a master builder.

(1) Bascule Bridges

- 10 bascule bridges
- 10 eligible
- 0 non-eligible

Two bascule bridges possess a significant historical association and are recommended as eligible for the National Register under *Criterion A-1*. These bridges were identified by the local communities as having local historical significance.

Five bridges, including the two bridges eligible under *Criterion A-1*, possess high artistic values and are recommended as eligible for the National Register under *Criterion C-4*. These bridges express artistic distinction with features such as decorative operator's houses, rails, lighting, and spans.

Bridges exhibiting features common to the bascule type are potentially eligible under *Criterion C.* Common elements of this bridge type include:

- Single- or double-leaf construction
- Operator's house
- Bottom- or rear-mounted segmental operating rack

Nine bridges, including the five eligible under *Criterion C-4*, visually convey the features common to this bridge type and are recommended as eligible for the National Register under *Criterion C-5*. Two of these bridges are single-leaf simple trunnions, and seven are double-leaf simple trunnions.

One single-leaf, Strauss trunnion demonstrates the evolution of the subgroup, and is recommended as eligible for the National Register under *Criterion C-7*.

Although one of the bascule bridges has replaced main members, it is still able to convey its historical significance.

Eligible Bascule Bridges

BIN	Region	County	Eligibility Criterion	Explanation
2075859	11	Bronx	C-4 C-5	Decorative operator's house. Exhibits features common to type. Double-leaf.
2240232	11	Kings	C-5	Exhibits features common to type. Single-leaf.
2240270	11	Kings	C-5	Exhibits features common to type. Double-leaf.
2240301	11	Kings	C-4 C-5	Decorative operator's house and rail. Exhibits features common to type. Double-leaf.
2260660	5	Erie	C-7	Single-leaf, Strauss trunnion.
3300010	10	Nassau	A-1 C-4 C-5	Historical significance to local community. Decorative operator's house and lighting. Exhibits features common to type. Double-leaf.
3300301	10	Nassau	C-5	Exhibits features common to type. Double-leaf.
3300302	10	Nassau	C-5	Exhibits features common to type. Double-leaf.

Eligible Bascule Bridges

BIN	Region	County	Eligibility Criterion	Explanation
3300620	10	Suffolk	A-1 C-4 C-5	Historical significance to local community. Decorative operator's house and lighting. Exhibits features common to type. Double-leaf.
3348880	8	Westchester	C-4 C-5	Decorative operator's house and span. Exhibits features common to type. Single-leaf.

(2) Lift Bridges

- 3 lift bridges
- 3 eligible
- 0 non-eligible

These three lift bridges visually convey the features common to this bridge type – two steel towers, and a deck that spans between them – and are recommended as eligible for the National Register under *Criterion C-5*.

Eligible Lift Bridges

BIN	Region	County	Eligibility Criterion	Explanation
2240640	11	Queens	C-5	Exhibits features common to type.
2260450	5	Erie	C-5	Exhibits features common to type.
2260650	5	Erie	C-5	Exhibits features common to type.

(3) Retractile Bridges

- 2 retractile bridges
- 2 eligible
- 0 non-eligible

One retractile bridge possesses a significant historical association and is recommended as eligible for the National Register under *Criterion A-1*. This bridge has local historical significance and is a designated New York City Landmark.

Both retractile bridges visually convey the features common to this bridge type – spans that retract horizontally and operator's houses – and are recommended as eligible for the National Register under *Criterion C-5*.

Although one of these bridges has replaced main members, it is still able to convey its historical significance.

Eligible Retractile Bridges

BIN	Region	County	Eligibility Criterion	Explanation
2240260	11	Kings	A-1 C-5	Historical significance to local community. Exhibits features common to type.
2240410	11	Queens	C-5	Exhibits features common to type.

(4) Swing Bridges

- 1 swing bridge
- 1 eligible
- 0 non-eligible

The swing bridge visually conveys the features common to this bridge type – a through truss anchored on a central pier; steel construction; and an operator's house – and is recommended as eligible for the National Register under *Criterion C-5*.

Eligible Swing Bridge

BIN	Region	County	Eligibility Criterion	Explanation
2240390	11	Kings	C-5	Exhibits features common to type.

D. Trusses

Three hundred and eighty-nine trusses were evaluated to determine their eligibility for the National Register. One of the earliest uses of trusses were covered bridges. In the early 1800s trusses were also being considered for railroad bridges. Technological advancements in construction and manufacturing, railroad expansion, and the experimentations of bridge designers and railroad engineers resulted in new truss forms that were also applied to road

bridges. Pratt and Warren trusses, for example, were introduced in the 1840s and soon came to dominate road bridge construction. In 1908 the New York State Department of Highways was established with passage of the Highway Law and began to standardize plans for truss bridges. The new state agency furnished standard plans to town and county officials that were used with increasing frequency statewide. In 1926 the Department of Public Works initiated broader state involvement in the construction of new bridges on state, town, and county roads. The newly established department made ample use of standard plans.

In order to facilitate analysis within this bridge type, trusses were first divided into two groups – common trusses and uncommon trusses. Within these broad groups, trusses were further divided into specific types to analyze their eligibility within the context of similar bridge types. These subgroups include:

- *Common Trusses*
  - Pratt
  - Warren

- *Uncommon Trusses*
  - Baltimore
  - Bowstring Arch
  - Camelback
  - King Post
  - Lenticular
  - Parker
  - Pennsylvania
  - Unusual Configurations

Bridges within these subgroups were compared to identify candidates that meet or do not meet the National Register criteria. Bridges with known historical associations were assessed under *Criterion A* to determine whether they represent a significant activity, event, or trend.

Factors that were considered in assessing eligibility under *Criterion C* included ability to convey features of the type, evolution of the bridge type, significant variations, unusual materials, high artistic value, and significant examples of the work of a master builder. The significant features of specific truss types are discussed under the relevant section below.

(1) Common Trusses

Pratt and Warren trusses represent 87 percent of the truss types surveyed in New York. The construction of these two types was standardized in New York after 1908. Almost half of the Pratt trusses and three-fourths of the Warren trusses surveyed date from the

period of standardization. Beginning in 1926, the Department of Public Works made broader use of standard plans. Pratt and Warren trusses built after 1925 form a large group of bridges that vary little from each other because standardization largely eliminated the further evolution of these types. In order to facilitate analysis within these two types, Pratt and Warren trusses, considered separately, were divided into two groups: pre-1909 and post-1908. This division allows for bridges constructed during different phases of development to be evaluated within their developmental contexts.

(a) Pratt Trusses

- *Pre-1909 Bridges*
  - 68 pre-1909 Pratt trusses
  - 63 eligible
  - 5 non-eligible

Pre-standardization Pratt trusses were evaluated to determine their eligibility for the National Register. Because these bridges date to the pre-standardization period, they represent a group of structures built as the type was evolving. These bridges potentially represent uncommon or innovative examples of the type, as well as good examples of the Pratt truss as it came to be constructed. As discussed above, bridges built after the introduction of standardization constitute a pool that shows little variation between structures. All pre-standardization bridges are considered to be eligible unless they have a significant integrity problem.

Twenty-two pre-1909 Pratt truss bridges possess significant historical associations and are recommended as eligible for the National Register under *Criterion A-1*. These bridges were identified by local communities as having local historical significance.

Bridges exhibiting features common to the Pratt truss type are potentially eligible under *Criterion C*. Common elements of this bridge type include:

- Verticals in compression and diagonals in tension
- Through or pony truss arrangement
- Iron or steel construction
- Pinned, bolted, or riveted connections

Thirty-seven pre-1909 bridges, including 14 of those eligible under *Criterion A-1*, visually convey the features common to this bridge type and are recommended as eligible for the National Register under *Criterion C-5*.

Twenty-six pre-1909 bridges, including eight of those eligible under *Criterion A-1*, demonstrate individuality or significant variations of features within the bridge type and are recommended as eligible for the National Register under *Criterion C-6*. Significant variations within the Pratt truss type include half-hip, multiple span, and double-intersection trusses.

Alterations that may affect the integrity of pre-standardization Pratt truss bridges include:

- Replaced main members
- Added main members
- Moved
- Change in rail

Although 17 of these pre-1909 Pratt truss bridges have integrity problems, 12 are still able to convey their historical significance. Five pre-standardization Pratt truss bridges are recommended as non-eligible for the National Register because they are no longer able to convey their historical significance due to a lack of integrity.

Eligible Pre-Standardization Pratt Trusses

BIN	Region	County	Eligibility Criterion	Explanation
2202860	1	Saratoga	A-1 C-5	Historical significance to local community. Exhibits features common to type.
2204030	2	Fulton	C-6	Half-hip.
2205240	2	Montgomery	C-6	Half-hip.
2205640	2	Oneida	C-6	Half-hip.
2205750	2	Oneida	A-1 C-5	Historical significance to local community. Exhibits features common to type.
2205760	2	Oneida	A-1 C-6	Historical significance to local community. Half-hip.
2214790	6	Allegany	C-5	Exhibits features common to type.
2214800	6	Allegany	A-1 C-6	Historical significance to local community. Double-intersection.
2220040	7	Jefferson	C-5	Exhibits features common to type.
2220350	7	Lewis	C-6	Half-hip.
2220750	7	Lewis	C-6	Half-hip.
2220830	7	St. Lawrence	A-1 C-6	Historical significance to local community. Multiple span.

Eligible Pre-Standardization Pratt Trusses

BIN	Region	County	Eligibility Criterion	Explanation
2224330	8	Ulster	C-5	Exhibits features common to type.
2227960	9	Otsego	A-1 C-5	Historical significance to local community. Exhibits features common to type.
2227970	9	Otsego	C-6	Half-hip.
2228160	9	Otsego	C-6	Half-hip.
2228190	9	Otsego	C-6	Half-hip.
2257690	3	Cayuga	C-5	Exhibits features common to type.
2259250	7	St. Lawrence	A-1 C-5	Historical significance to local community. Exhibits features common to type.
2259280	7	St. Lawrence	C-6	Half-hip.
2260910	5	Niagara	C-5	Exhibits features common to type.
2262630	8	Dutchess	A-1 C-6	Historical significance to local community. Double-intersection.
2263570	2	Herkimer	C-5	Exhibits features common to type.
2308660	2	Madison	A-1 C-5	Historical significance to local community. Exhibits features common to type.
3200990	1	Greene	C-6	Half-hip.
3201140	1	Greene	C-5	Exhibits features common to type.
3201150	1	Greene	C-5	Exhibits features common to type.
3208960	3	Oswego	A-1 C-6	Historical significance to local community. Half-hip.
3210040	3	Tompkins	A-1 C-5	Historical significance to local community. Exhibits features common to type.
3221690	7	St. Lawrence	C-5	Exhibits features common to type.
3222780	8	Columbia	C-5	Exhibits features common to type.
3301610	1	Essex	C-6	Half-hip.
3305730	1	Warren	A-1 C-5	Historical significance to local community. Exhibits features common to type.
3306380	1	Washington	A-1 C-6	Historical significance to local community. Multiple span.
3307490	2	Hamilton	C-5	Exhibits features common to type.

Eligible Pre-Standardization Pratt Trusses

BIN	Region	County	Eligibility Criterion	Explanation
3314600	4	Wayne	C-5	Exhibits features common to type.
3315020	4	Genesee	C-5	Exhibits features common to type.
3316420	4	Livingston	C-5	Exhibits features common to type.
3316660	4	Livingston	C-6	Half-hip.
3316760	4	Livingston	C-5	Exhibits features common to type.
3316770	4	Livingston	A-1 C-5	Historical significance to local community. Exhibits features common to type.
3319680	4	Wyoming	A-1 C-5	Historical significance to local community. Exhibits features common to type.
3322060	5	Cattaraugus	C-5	Exhibits features common to type.
3322820	5	Cattaraugus	C-5	Exhibits features common to type.
3328160	5	Erie	C-5	Exhibits features common to type.
3332520	6	Schuyler	C-6	Half-hip.
3336250	7	Clinton	A-1 C-6	Historical significance to local community. Double-intersection.
3336410	7	Clinton	C-5	Exhibits features common to type.
3336970	7	Franklin	C-6	Multiple span, half-hip.
3337090	7	Franklin	C-5	Exhibits features common to type.
3337100	7	Franklin	C-5	Exhibits features common to type.
3337350	7	Franklin	C-6	Half-hip.
3337620	7	Franklin	A-1 C-5	Historical significance to local community. Exhibits features common to type.
3338420	7	Jefferson	A-1 C-5	Historical significance to local community. Exhibits features common to type.
3338780	7	Jefferson	A-1 C-5	Historical significance to local community. Exhibits features common to type.
3340100	7	Lewis	A-1 C-5	Historical significance to local community. Exhibits features common to type.
3340570	7	St. Lawrence	C-6	Multiple span.
3345090	8	Orange	C-6	Half-hip.

Eligible Pre-Standardization Pratt Trusses

BIN	Region	County	Eligibility Criterion	Explanation
3348560	8	Westchester	A-1 C-5	Historical significance to local community. Exhibits features common to type.
3350830	9	Chenango	C-5	Exhibits features common to type.
3351710	9	Chenango	A-1 C-6	Historical significance to local community. Multiple span.
3352730	9	Delaware	C-6	Multiple span.
3356450	9	Sullivan	C-5	Exhibits features common to type.

- *Post-1908 Bridges*
  - 27 post-1908 Pratt trusses
  - 14 eligible
  - 13 non-eligible

Post-1908 Pratt trusses were built during the period of standardization and may possess structural elements common to this type. Pre-1926 Pratt trusses represent the early period of bridge standardization in New York and are considered to be eligible unless they have a significant integrity problem. Pratt trusses built after 1925 were strongly influenced by standardization and do not represent significant examples of their type. Post-1925 Pratt trusses are recommended as non-eligible unless they possess historical significance, a significant variation, or other unique feature or association.

Five post-1908 Pratt truss bridges possess significant historical associations and are recommended as eligible for the National Register under *Criterion A-1*. These bridges were identified by local communities as having local historical significance.

One bridge represents a significant example of the work of a master builder, and is recommended as eligible for the National Register under *Criterion C-3*.

Eleven Pratt trusses, including the five eligible under *Criterion A-1*, date from the early period of standardization, 1909-1925, and are recommended as eligible for the National Register under *Criterion C-5*.

Four post-1908 bridges, including the bridge eligible under *Criterion C-3* and two bridges eligible under *Criteria A-1* and *C-5*, demonstrate significant variations within the bridge type and are recommended as eligible for the National Register under *Criterion C-6*. These significant variations include half-hip and multiple-span bridges.

One post-1908 bridge demonstrates the evolution of the bridge type and is recommended as eligible for the National Register under *Criterion C-7*. This bridge is an early example of a welded bridge.

Fourteen post-1925 bridges represent common examples of an established type and are recommended as non-eligible for the National Register. These bridges do not display innovations in material or design, and they do not have known historical associations (as identified through contextual study research and questionnaire responses). In addition, four of these bridges lack integrity, having either replaced or added main members.

Eligible Post-Standardization Pratt Trusses

BIN	Region	County	Eligibility Criterion	Explanation
1029040	8	Columbia	C-3	Phoenix Bridge Company.
			C-6	Half-hip.
2206410	2	Oneida	A-1	Historical significance to local community.
			C-5	Dates to period of early standardization.
2207590	3	Cortland	C-6	Half-hip.
3209750	3	Tompkins	A-1	Historical significance to local community.
			C-5	Dates to period of early standardization.
			C-6	Multiple span, half-hip.
3209800	3	Tompkins	A-1	Historical significance to local community.
			C-5	Dates to period of early standardization.
			C-6	Multiple span.
3303051	1	Greene	C-7	Early welded.
3307470	2	Hamilton	C-5	Dates to period of early standardization.
3314460	3	Tompkins	A-1	Historical significance to local community.
			C-5	Dates to period of early standardization.
3316440	4	Livingston	C-5	Dates to period of early standardization.
3335030	6	Tioga	C-5	Dates to period of early standardization.
3335730	7	Clinton	A-1	Historical significance to local community.
			C-5	Dates to period of early standardization.
3339800	7	Lewis	C-5	Dates to period of early standardization.
3353050	9	Delaware	C-5	Dates to period of early standardization.
3354650	9	Schoharie	C-5	Dates to period of early standardization.

(b) Warren Trusses

- *Pre-1909 Bridges*
  - 33 pre-1909 Warren trusses
  - 33 eligible
  - 0 non-eligible

Pre-standardization Warren trusses were evaluated to determine their eligibility for the National Register. Because these bridges date to the pre-standardization period, they represent a group of structures built as the type was evolving. These bridges potentially represent uncommon or innovative examples of the type, as well as good examples of the Warren truss as it came to be constructed. As discussed above, bridges built after the introduction of standardization constitute a pool that shows little variation between structures. All pre-standardization bridges are considered to be eligible unless they have a significant integrity problem.

Two pre-1909 Warren truss bridges possess significant historical associations and are recommended as eligible for the National Register under *Criterion A-1*. These bridges were identified by local communities as having local historical significance.

Bridges exhibiting features common to the Warren truss type are potentially eligible under *Criterion C*. Common elements of this bridge type include:

- Diagonals that withstand tensile and compressive forces
- Occasional use of verticals for added bracing
- Through or pony truss arrangement
- Iron or steel construction
- Pinned, bolted or riveted connections

Thirty pre-1909 bridges, including one of those eligible under *Criterion A-1*, visually convey the features common to this bridge type and are recommended as eligible for the National Register under *Criterion C-5*.

Significant variations within the pre-standardization Warren truss type include:

- Polygonal top chords
- Multiple spans
- Double-intersection trusses
- Deck trusses

Three pre-1909 bridges, including one of those eligible under *Criterion A-1*, demonstrate individuality or significant variations of features within the bridge type and are recommended as eligible for the National Register under *Criterion C-6*.

Integrity problems identified among the pre-standardization Warren trusses include replaced and added main members. Although two pre-1909 Warren trusses have integrity problems, they are still able to convey their historical significance.

Eligible Pre-Standardization Warren Trusses

BIN	Region	County	Eligibility Criterion	Explanation
2201660	1	Rensselaer	C-5	Exhibits features common to type.
2205720	2	Oneida	C-5	Exhibits features common to type.
2206070	2	Oneida	A-1 C-6	Historical significance to local community. Multiple span.
2206950	3	Cayuga	C-5	Exhibits features common to type.
2212680	5	Chautauqua	C-5	Exhibits features common to type.
2213760	6	Allegany	C-5	Exhibits features common to type.
2219110	6	Tioga	C-5	Exhibits features common to type.
2220460	7	Lewis	C-5	Exhibits features common to type.
2220640	7	Lewis	C-5	Exhibits features common to type.
2220760	7	Lewis	C-5	Exhibits features common to type.
2223210	8	Orange	C-5	Exhibits features common to type.
2226960	9	Delaware	C-5	Exhibits features common to type.
2227750	9	Otsego	A-1 C-5	Historical significance to local community. Exhibits features common to type.
2228530	9	Schoharie	C-5	Exhibits features common to type.
2241259	11	Bronx	C-5	Exhibits features common to type.
2255550	2	Herkimer	C-6	Double-intersection, deck truss.
2264530	8	Ulster	C-5	Exhibits features common to type.
2266990	2	Fulton	C-5	Exhibits features common to type.
2267050	3	Cortland	C-5	Exhibits features common to type.
2308880	2	Madison	C-5	Exhibits features common to type.
2346230	8	Rockland	C-6	Polygonal top chord.

Eligible Pre-Standardization Warren Trusses

BIN	Region	County	Eligibility Criterion	Explanation
3337110	7	Franklin	C-5	Exhibits features common to type.
3337560	7	Franklin	C-5	Exhibits features common to type.
3337580	7	Franklin	C-5	Exhibits features common to type.
3337610	7	Franklin	C-5	Exhibits features common to type.
3337700	7	Franklin	C-5	Exhibits features common to type.
3340720	7	St. Lawrence	C-5	Exhibits features common to type.
3340790	7	St. Lawrence	C-5	Exhibits features common to type.
3341150	7	St. Lawrence	C-5	Exhibits features common to type.
3356440	9	Sullivan	C-5	Exhibits features common to type.
3356680	9	Sullivan	C-5	Exhibits features common to type.
3356690	9	Sullivan	C-5	Exhibits features common to type.
3366590	7	St. Lawrence	C-5	Exhibits features common to type.

- *Post-1908 Bridges*
  - 211 post-1908 Warren trusses
  - 75 eligible
  - 136 non-eligible

Post-1908 Warren trusses were built during the period of standardization and may possess structural elements common to this type. Pre-1926 Warren trusses represent the early period of bridge standardization in New York and are considered to be eligible unless they have a significant integrity problem. Warren trusses built after 1925 were strongly influenced by standardization and do not represent significant examples of their type. Post-1925 Warren trusses are recommended as non-eligible unless they possess historical significance, a significant variation or other unique feature or association.

Thirteen post-1909 Warren truss bridges possess significant historical associations and are recommended as eligible for the National Register under *Criterion A-1*. Twelve bridges were identified by local communities as having local historical significance. One bridge is associated with Depression-era work relief programs.

One bridge possesses high artistic values and is recommended as eligible for the National Register under *Criterion C-4*. This bridge carries a decorative metal eagle motif.

Thirty-four Warren trusses, including six of those eligible under *Criterion A-1*, date to the early period of standardization, 1909-1925, and are recommended as eligible for the National Register under *Criterion C-5*.

Significant variations or features of individuality within the post-standardization Warren truss type include:[33]

- Deck truss
- Multiple span
- Double-intersection truss
- Unusual substruts
- Unusual curved top and bottom chords

Forty post-1908 bridges, including one of those eligible under *Criterion A-1* and six of those eligible under *Criterion C-5* for dating to the period of early standardization, demonstrate individuality or significant variations of features within the bridge type and are recommended as eligible for the National Register under *Criterion C-6*.

One hundred and ten post-1925 bridges represent common examples of an established type and are recommended as non-eligible for the National Register. These bridges do not display innovations in material or design, and they do not have known historical associations (as identified through contextual study research and questionnaire responses).

Integrity problems identified among the post-standardization Warren truss bridges include:

- Raised vertical clearance
- Added, replaced or removed main members
- Widened with additional members
- Change in rail

Although nine recommended eligible post-standardization Warren trusses have integrity problems, they are still able to convey their historical significance. Twenty-six post-1925 bridges are recommended as non-eligible for the National Register because they are no longer able to convey their historical significance due to a lack of integrity.

[33] Polygonal top chords were not considered to be a significant variation among the post-standardization Warren trusses because they were a common feature after 1908.

Eligible Post-Standardization Warren Trusses

BIN	Region	County	Eligibility Criterion	Explanation
1002460	2	Herkimer	C-6	Multiple span.
1003130	8	Orange	C-6	Deck truss.
1004310	1	Rensselaer	C-6	Deck truss.
1004360	9	Otsego	C-6	Multiple span.
1004470	9	Delaware	C-6	Multiple span.
1004890	1	Warren	C-6	Multiple span.
1006730	1	Saratoga	C-6	Multiple span, deck truss.
1007050	1	Saratoga	C-5 C-6	Dates to period of early standardization. Multiple span.
1013799	9	Sullivan	C-6	Multiple span, deck truss.
1014500	8	Orange	C-6	Multiple span.
1018600	9	Broome	C-6	Multiple span.
1020110	2	Herkimer	C-6	Multiple span.
1021190	2	Hamilton	C-6	Multiple span.
1024020	7	St. Lawrence	C-6	Multiple span.
1024720	1	Rensselaer	C-6	Multiple span, deck truss.
1027660	8	Rockland	C-6	Multiple span, deck truss.
1029200	1	Saratoga	C-6	Multiple span.
1029250	1	Rensselaer	C-4	Decorative eagle motif.
1029570	7	St. Lawrence	A-1	Historical significance to local community.
1029760	1	Essex	A-1	Historical significance to local community.
1030480	9	Broome	C-6	Multiple span.
1039620	7	St. Lawrence	C-6	Multiple span.
1046780	3	Tompkins	A-1	Historical significance to local community.
1048230	1	Warren	C-6	Multiple span.
1051270	2	Herkimer	C-6	Multiple span.
1053660	1	Warren	C-6	Multiple span, deck truss.
1091660	9	Sullivan	C-6	Multiple span.

Eligible Post-Standardization Warren Trusses

BIN	Region	County	Eligibility Criterion	Explanation
1091700	9	Delaware	A-1 C-6	Historical significance to local community. Multiple span.
2003050	8	Orange	C-6	Unusual substruts.
2210600	3	Tompkins	A-1	Historical significance to local community.
2210620	3	Tompkins	C-6	Deck truss.
2212870	5	Erie	C-5	Dates to period of early standardization.
2215930	6	Schuyler	A-1 C-5	Historical significance to local community. Dates to period of early standardization.
2217910	6	Steuben	C-5	Dates to period of early standardization.
2219640	7	Clinton	C-5 C-6	Dates to period of early standardization. Multiple span.
2220790	7	Lewis	C-5	Dates to period of early standardization.
2227730	9	Otsego	C-5	Dates to period of early standardization.
2228320	9	Otsego	C-5	Dates to period of early standardization.
2240507	11	Queens	C-5 C-6	Dates to period of early standardization. Multiple span, deck truss.
2241590	11	Bronx	C-5	Dates to period of early standardization.
2255530	2	Herkimer	A-1	Depression-era work relief program.
2260600	5	Erie	C-5 C-6	Dates to period of early standardization. Double-intersection.
2260890	5	Niagara	C-5	Dates to period of early standardization.
2266750	1	Rensselaer	C-5	Dates to period of early standardization.
2268170	3	Onondaga	C-5 C-6	Dates to period of early standardization. Double-intersection.
3200680	1	Greene	C-5	Dates to period of early standardization.
3209780	3	Tompkins	A-1 C-5	Historical significance to local community. Dates to period of early standardization.
3209860	3	Tompkins	A-1 C-5	Historical significance to local community. Dates to period of early standardization.
3210010	3	Tompkins	A-1 C-5	Historical significance to local community. Dates to period of early standardization.

Eligible Post-Standardization Warren Trusses

BIN	Region	County	Eligibility Criterion	Explanation
3210180	3	Tompkins	A-1 C-5	Historical significance to local community. Dates to period of early standardization.
3220970	7	St. Lawrence	C-5	Dates to period of early standardization.
3222300	8	Columbia	C-5	Dates to period of early standardization.
3301650	1	Essex	C-5	Dates to period of early standardization.
3305530	1	Warren	C-6	Multiple span, deck truss.
3306490	1	Washington	C-5	Dates to period of early standardization.
3307330	2	Hamilton	C-5	Dates to period of early standardization.
3307500	2	Hamilton	C-5	Dates to period of early standardization.
3307510	2	Hamilton	C-5	Dates to period of early standardization.
3312310	3	Cortland	A-1 C-5	Historical significance to local community. Dates to period of early standardization.
3328360	5	Erie	C-6	Multiple span.
3335280	6	Tioga	A-1	Historical significance to local community.
3336180	7	Clinton	C-5	Dates to period of early standardization.
3337410	7	Franklin	C-5	Dates to period of early standardization.
3338790	7	Jefferson	C-5 C-6	Dates to period of early standardization. Multiple span.
3339380	7	Jefferson	C-5	Dates to period of early standardization.
3340020	7	Lewis	C-5	Dates to period of early standardization.
3340380	7	Lewis	C-5	Dates to period of early standardization.
3344290	8	Orange	C-6	Deck truss.
3344680	8	Orange	C-6	Multiple span.
3349850	9	Broome	C-6	Multiple span.
3349960	9	Broome	C-6	Multiple span.
3352660	9	Delaware	C-6	Multiple span.
3354610	9	Schoharie	C-6	Multiple span.
5524010	8	Dutchess	C-5	Dates to period of early standardization.
5524020	8	Putnam	C-6	Unusual curved top and bottom chords.

(2) Uncommon Trusses

Eight truss types constitute the remaining 13 percent of truss bridges surveyed in New York. As discussed above, uncommon trusses were divided into specific types to analyze their eligibility within the context of similar bridge types. Standardization was not a consideration in the analysis of these bridges because of their rarity.

The bridges in these small subgroups are considered to be eligible unless they have a significant integrity problem. Alterations that may affect the integrity of the uncommon truss types include:

- Replaced or added main members
- Collapsed
- Concrete added to superstructure

(a) Baltimore Trusses

- 6 Baltimore trusses
- 6 eligible
- 0 non-eligible

Examples of evaluated Baltimore trusses in New York date from 1889 to 1948. One Baltimore truss possesses a significant historical association and is recommended as eligible under *Criterion A-1*. This bridge was identified by the local community as having local historical significance. In addition, this bridge represents the work of a master builder, and is recommended as eligible under *Criterion C-3*.

Bridges exhibiting features common to the Baltimore type are potentially eligible under *Criterion C*. Common elements of this bridge type include:

- Verticals in compression, diagonals in tension
- Subdivision of panels with substruts
- Through truss arrangement
- Flat upper chord
- Pinned, bolted or riveted connections
- Iron or steel construction

Four bridges, including the one eligible under *Criterion A-1*, visually convey the features common to this bridge type and are recommended as eligible for the National Register under *Criterion C-5*.

Two bridges demonstrate individuality or significant variations within the bridge type and are recommended as eligible for the National Register under *Criterion C-6*. One bridge has multiple spans, and one bridge consists of two parallel, adjacent trusses.

Although one of these bridges has replaced main members, it is still able to convey its historical significance.

Eligible Baltimore Trusses

BIN	Region	County	Eligibility Criterion	Explanation
1017350	7	Clinton	C-5	Exhibits features common to type.
2206470	2	Oneida	A-1 C-3 C-5	Historical significance to local community. Elmira Bridge Company. Exhibits features common to type.
2241169	11	Bronx	C-6	Two trusses side by side.
3306120	1	Washington	C-5	Exhibits features common to type.
3339920	7	Lewis	C-5	Exhibits features common to type.
3352620	9	Delaware	C-6	Multiple span.

(b) Bowstring Arch-Trusses

- 5 bowstring arch-trusses
- 5 eligible
- 0 non-eligible

Examples of evaluated bowstring arch-truss bridges in New York date from 1890 to 1922. One bowstring arch-truss represents a significant example of the work of a master builder and is recommended as eligible under *Criterion C-3*.

Bridges exhibiting features common to the bowstring arch-truss type are potentially eligible under *Criterion C*. Common elements of this bridge type include:

- Tied arch
- Diagonals serving as bracing and verticals supporting the deck
- Arched or polygonal top chord
- Iron or steel construction

Four bridges visually convey the features common to this bridge type and are recommended as eligible for the National Register under *Criterion C-5*.

One multiple-span bridge, which is also eligible under *Criterion C-3*, demonstrates a significant variation within the bridge type and is recommended as eligible for the National Register under *Criterion C-6*.

Eligible Bowstring Arch-Trusses

BIN	Region	County	Eligibility Criterion	Explanation
2220530	7	Lewis	C-5	Exhibits features common to type.
2220810	7	St. Lawrence	C-5	Exhibits features common to type.
2269290	1	Greene	C-5	Exhibits features common to type.
3309390	2	Madison	C-5	Exhibits features common to type.
3341470	7	St. Lawrence	C-3 C-6	King Iron Bridge and Manufacturing Company. Multiple span.

(c) Camelback Trusses

- 9 Camelback trusses
  - 9 eligible
  - 0 non-eligible

Examples of evaluated Camelback trusses in New York date from 1890 to 1941. Two Camelback trusses possess significant historical associations and are recommended as eligible for the National Register under *Criterion A-1.* These bridges were identified by the local communities as having local historical significance.

Three bridges, including one of those eligible under *Criterion A-1*, represent the work of master builders and are recommended as eligible under *Criterion C-3*.

Bridges exhibiting features common to the Camelback type are potentially eligible under *Criterion C.* Common elements of this bridge type include:

- Verticals in compression, diagonals in tension
- Diagonals that radiate upwards away from the center panel
- Polygonal top chord of five slopes
- Iron or steel construction
- Pinned, bolted or riveted connections

Eight bridges, including the two bridges eligible under *Criterion A-1*, visually convey the features common to this bridge type and are recommended as eligible for the National Register under *Criterion C-5*.

One multiple-span bridge, which is one of the bridges eligible under *Criterion C-3*, demonstrates a significant variation within the bridge type, and is recommended as eligible for the National Register under *Criterion C-6*.

Although two of these bridges have integrity concerns, they are still able to convey their historical significance. One bridge has replaced main members, and the other bridge has experienced a change in rail.

Eligible Camelback Trusses

BIN	Region	County	Eligibility Criterion	Explanation
2226160	9	Broome	C-3	Owego Bridge Company.
			C-6	Multiple span.
2308370	2	Madison	C-5	Exhibits features common to type.
3045230	8	Ulster	C-5	Exhibits features common to type.
3221700	7	St. Lawrence	A-1	Historical significance to local community.
			C-5	Exhibits features common to type.
3317630	4	Monroe	C-3	American Bridge Company.
			C-5	Exhibits features common to type.
3338680	7	Jefferson	C-5	Exhibits features common to type.
3340150	7	Lewis	C-5	Exhibits features common to type.
3347090	8	Ulster	C-5	Exhibits features common to type.
3356530	9	Sullivan	A-1	Historical significance to local community.
			C-3	Groton Bridge Company.
			C-5	Exhibits features common to type.

(d) King Post Trusses

- 1 King Post truss
- 1 eligible

The one King Post truss bridge evaluated in New York dates from 1890. This bridge is a covered bridge and demonstrates a significant variation within the bridge type, and is recommended as eligible for the National Register under *Criterion C-6*. Although this

bridge has added steel girders that provide support from underneath the structure, it is still able to convey its historical significance.

Eligible King Post Truss

BIN	Region	County	Eligibility Criterion	Explanation
2264410	8	Ulster	C-6	Covered bridge.

(e) Lenticular Trusses

- 8 lenticular trusses
- 8 eligible
- 0 non-eligible

Examples of evaluated lenticular trusses in New York date from 1878 to 1920. One lenticular truss possesses a significant historical association and is recommended as eligible for the National Register under *Criterion A-1*. This bridge was identified by the local community as having local historical significance.

Three bridges, including the bridge eligible under *Criterion A-1*, represent the work of master builders and are recommended as eligible for the National Register under *Criterion C-3*.

Bridges exhibiting features common to the lenticular type are potentially eligible under *Criterion C*. Common elements of this bridge type include:

- Verticals in compression, diagonals in tension
- Curved top and bottom chords
- Iron or steel construction
- Pinned or bolted connections

Seven bridges visually convey the features common to this bridge type and are recommended as eligible for the National Register under *Criterion C-5*.

One multiple-span bridge, which is the bridge eligible under *Criterion A-1*, demonstrates a significant variation within the bridge type, and is recommended as eligible for the National Register under *Criterion C-6*. Although this bridge has replaced main members, it is still able to convey its historical significance.

Eligible Lenticular Trusses

BIN	Region	County	Eligibility Criterion	Explanation
2207170	3	Cortland	C-5	Exhibits features common to type.
2216240	6	Steuben	C-3 C-5	Wrought Iron Bridge Company. Exhibits features common to type.
2218420	6	Tioga	C-5	Exhibits features common to type.
2218470	6	Tioga	C-5	Exhibits features common to type.
2226050	9	Broome	A-1 C-3 C-6	Historical significance to local community. Berlin Iron Bridge Company. Multiple span.
3337310	7	Franklin	C-5	Exhibits features common to type.
3341430	7	St. Lawrence	C-3 C-5	Berlin Iron Bridge Company. Exhibits features common to type.
3366620	7	Jefferson	C-5	Exhibits features common to type.

(f) Parker Trusses

- 15 Parker trusses
- 15 eligible
- 0 non-eligible

Examples of evaluated Parker trusses in New York date from 1915 to 1953. Two Parker trusses possess significant historical associations and are recommended as eligible for the National Register under *Criterion A-1*. These bridges were identified by the local communities as having local historical significance.

One bridge represents the work of a master builder and is recommended as eligible for the National Register under *Criterion C-3*.

Bridges exhibiting features common to the Parker type are potentially eligible under *Criterion C*. Common elements of this bridge type include:

- Verticals in compression, diagonals in tension
- Diagonals that radiate upwards away from the center panel
- Polygonal top chord
- Through truss arrangement

- Riveted and welded connections
- Steel construction

Thirteen bridges, including the one eligible under *Criterion C-3* and two eligible under *Criterion A-1*, visually convey the features common to this bridge type and are recommended as eligible for the National Register under *Criterion C-5*.

Two multiple-span bridges demonstrate significant variations within the bridge type and are recommended as eligible for the National Register under *Criterion C-6*.

Although two bridges have replaced main members, they are still able to convey their historical significance.

Eligible Parker Trusses

BIN	Region	County	Eligibility Criterion	Explanation
2206270	2	Oneida	A-1 C-5	Historical significance to local community. Exhibits features common to type.
2224790	8	Ulster	C-5	Exhibits features common to type.
3301730	1	Essex	A-1 C-5	Historical significance to local community. Exhibits features common to type.
3319440	4	Wyoming	C-5	Exhibits features common to type.
3327240	5	Erie	C-5	Exhibits features common to type.
3338670	7	Jefferson	C-5	Exhibits features common to type.
3339760	7	Lewis	C-5	Exhibits features common to type.
3339960	7	Lewis	C-5	Exhibits features common to type.
3346530	8	Ulster	C-5	Exhibits features common to type.
3346720	8	Ulster	C-5	Exhibits features common to type.
3347070	8	Ulster	C-6	Multiple span.
3354890	9	Schoharie	C-5	Exhibits features common to type.
3356150	9	Sullivan	C-3 C-5	American Bridge Company. Exhibits features common to type.
5223060	8	Orange	C-6	Multiple span.
5524130	6	Steuben	C-5	Exhibits features common to type.

(g) Pennsylvania Trusses

- 3 Pennsylvania trusses
- 3 eligible
- 0 non-eligible

The Pennsylvania trusses, built in 1896, 1898, and 1902, represent the work of master builders and are recommended as eligible for the National Register under *Criterion C-3*. These bridges also visually convey the features common to this bridge type and are recommended as eligible for the National Register under *Criterion C-5*. These common features include:

- Verticals in compression, diagonals in tension
- Substruts that bisect the diagonals
- Polygonal top chord
- Through truss arrangement

Eligible Pennsylvania Trusses

BIN	Region	County	Eligibility Criterion	Explanation
3335790	7	Clinton	C-3 C-5	Berlin Iron Bridge Company. Exhibits features common to type.
3349680	9	Broome	C-3 C-5	Owego Bridge Company. Exhibits features common to type.
3354640	9	Schoharie	C-3 C-5	Groton Bridge Company. Exhibits features common to type.

(h) Trusses with Unusual Configurations

- 3 trusses with unusual configurations
- 3 eligible
- 0 non-eligible

Examples of evaluated trusses with unusual configurations in New York date from 1900 to 1951. Three bridges with unusual truss configurations demonstrate individuality within the basic truss bridge type and are recommended as eligible for the National Register under *Criterion C-6*.

Eligible Trusses with Unusual Configurations

BIN	Region	County	Eligibility Criterion	Explanation
1058811	10	Suffolk	C-6	Cantilever truss.
2266880	2	Herkimer	C-6	Steel Town Lattice.
3302030	1	Essex	C-6	Kit bridge.

E. Suspension Bridges

- 2 suspension bridges
- 2 eligible
- 0 non-eligible

Two suspension bridges were evaluated to determine their eligibility for the National Register. Although suspension bridges were introduced in the United States in 1801, these two bridges date from the twentieth century. Due to their rarity, the bridges are considered to be eligible unless they have a significant integrity problem. Neither bridge has an integrity concern.

One bridge possesses a significant historical association and is recommended as eligible for the National Register under *Criterion A-1*. This bridge was identified by the local community as having local historical significance.

Each bridge represents the work of a master bridge builder and is recommended as eligible for the National Register under *Criterion C-3*. In addition, these two bridges visually convey the features common to this bridge type and are recommended as eligible for the National Register under *Criterion C-5*. These common features include:

- Towers for vertical support
- Wire cables from which the deck is suspended
- Steel construction

Eligible Suspension Bridges

BIN	Region	County	Eligibility Criterion	Explanation
3341320	7	St. Lawrence	A-1	Historical significance to local community.
			C-3	Holton D. Robinson.
			C-5	Exhibits features common to type.
3352060	9	Delaware	C-3	J.A. Roebling & Sons.
			C-5	Exhibits features common to type.

Appendix A. Master List of Eligible Bridges

BIN, Region, County, Eligibility Criterion

For an up-to-date list of pre-1961 eligible bridges, contact NYSDOT's Environmental Analysis Bureau.

Appendix B. Master List of Non-Eligible Bridges

BIN, Region, County

For an up-to-date list of pre-1961 non-eligible bridges, contact NYSDOT's Environmental Analysis Bureau.

Appendix C. Master List of Bridges Listed in the National Register of Historic Places as of June 25, 2001

- ***National Register-Listed Bridges With BINs (in order by BIN)***
- ***National Register-Listed Bridges Without BINs (in order by county, then location)***

This appendix primarily includes individual bridges that were listed in the National Register of Historic Places as of June 25, 2001. Most bridges in this appendix were listed in the National Register for their individual significance. However, some bridges within National Register-listed districts, such as Central Park, are included in this appendix. The appendix is not intended to be an exhaustive listing of bridges listed in the National Register. To find out whether a specific bridge is listed in the National Register, users of this appendix should consult with NYSDOT's Environmental Analysis Bureau or the SHPO of the New York State Office of Parks, Recreation, and Historic Preservation.

Master List of Bridges Listed in the National Register of Historic Places as of June 25, 2001
(Bridges with BINs in order by BIN)

BIN	Region	County
1005950	7	Clinton
1006380	8	Dutchess
1007350	8	Ulster
1016560	8	Westchester
1032750	1	Essex
1071300	7	Clinton
1091680	9	Sullivan
2066919	11	Bronx
2202740	1	Saratoga
2204790	2	Herkimer
2207690	3	Cortland
2207700	3	Cortland
2207710	3	Cortland
2211250	4	Monroe
2211270	4	Monroe
2211280	4	Monroe
2212820	5	Chautauqua
2219100	6	Tioga
2223590	8	Orange
2224240	8	Ulster
2226170*	9	Broome
2240019	11	New York
2240027	11	New York
2240028	11	New York
2240047	11	New York
2240048	11	New York
2242100	11	Bronx

Master List of Bridges Listed in the National Register of Historic Places as of June 25, 2001
(Bridges with BINs in order by BIN)

BIN	Region	County
2246000	11	New York
2246030	11	New York
2246050	11	New York
2246069	11	New York
2246080	11	New York
2246100	11	New York
2246110	11	New York
2246120	11	New York
2246140	11	New York
2246170	11	New York
2246240	11	New York
2246250	11	New York
2246260	11	New York
2246280	11	New York
2246330	11	New York
2246360	11	New York
2246400	11	New York
2246410	11	New York
2246460	11	New York
2246470	11	New York
2246500	11	New York
2246510	11	New York
2246580	11	New York
2256078	4	Monroe
2259570	1	Albany
2262600	8	Dutchess
2264420*	8	Ulster
2264490	8	Ulster

Master List of Bridges Listed in the National Register of Historic Places as of June 25, 2001
(Bridges with BINs in order by BIN)

BIN	Region	County
2343750	8	Dutchess
3209100	3	Oswego
3210210	3	Tompkins
3222110	8	Columbia
3222250	8	Columbia
3302060	1	Essex
3302200	1	Essex
3302370	1	Essex
3303480	1	Rensselaer
3304790	1	Saratoga
3306220	1	Washington
3306450*	1	Washington
3306460	1	Washington
3307830	2	Herkimer
3316980	4	Monroe
3330750	6	Allegany
3335960	7	Clinton
3335970	7	Clinton
3341410	7	St Lawrence
3342250	8	Columbia
3343190	8	Dutchess
3343760	8	Dutchess
3346050	8	Rockland
3352070	9	Delaware
3352270	9	Delaware
3352500	9	Delaware
3353740	9	Otsego
3357400	9	Sullivan

Master List of Bridges Listed in the National Register of Historic Places as of June 25, 2001
(Bridges with BINs in order by BIN)

BIN	Region	County
3359690	9	Sullivan
3359920	7	Clinton
3364090	1	Essex
5228710	9	Sullivan
5228740	9	Sullivan
5503400	8	Westchester
5521280	3	Onondaga

* *Bridges with asterisk are not included in the Historic Bridge Database.*

Master List of Bridges Listed in the National Register of Historic Places as of June 25, 2001
(Bridges without BINS in order by county, then location)

County	Region	Location	Name
Broome	9	South Washington Street over Susquehanna River	South Washington Street Parabolic Bridge
Clinton	7	Golf Course Road over Palmer Brook, Ausable	Palmer Brook Bridge
Delaware	9	Methol Road over Trout Brook, Hancock	Lower Shavertown Covered Bridge
Essex	1	Country Club Road over Ausable River	Notman Bridge
Essex	1	NY 86 over Ausable River, Wilmington	Slater Bridge
Herkimer	2	Route 29, Middleville Vicinity	Route 29 Stone Arch Bridge
Jefferson	7	Campbells Point Road over Bedford Creek, Hounsfield	Bedford Creek Bridge
New York	11	Above Broadway from 122nd Street to 135th Street	IRT Broadway Line Viaduct
Otsego	9	East Lake Road over Shadow Brook, East Springfield	Hyde Hall Covered Bridge
Saratoga	1	North Shore Road over Beecher Creek, Edinburg Vicinity	Copeland Covered Bridge

Master List of Bridges Listed in the National Register of Historic Places as of June 25, 2001
(Bridges without BINS in order by county, then location)

County	Region	Location	Name
Sullivan	9	Off County Road 94 over Hankins Creek	Hankins Stone Arch Bridge
Ulster	8	Beaverkill Road, Olivebridge Vicinity	Ashokan-Turnwood Covered Bridge
Ulster	8	Elm Street over Alton Creek, Shandaken	Elm Street Stone Arch Bridge
Ulster	8	Mill Street over Alton Creek, Shandaken	Mill Street Stone Arch Bridge
Westchester	8	West of Goldens Bridge at Croton River	Bridge L-158

Appendix D. Eligible and Non-Eligible Bridges Within Possible Historic Districts

Bin, Region, County, Eligibility Status

This appendix identifies included bridges that have a possible historic district in the immediate vicinity of the bridge. Bridges with a possible historic district in the immediate vicinity that were excluded from the inventory subsequent to the field survey are not included in this appendix.

During the fieldwork portion of this project, surveyors identified possible historic districts in the immediate vicinity of bridges to assist NYSDOT with future project planning. However, the scope of this project did not include assessing the eligibility of historic districts. The eligible or non-eligible status refers only to the bridge as an individual resource. In planning future projects, NYSDOT should evaluate the National Register-eligibility of these possible historic districts and consider whether the bridges may be contributing resources. It is possible that other bridges, which are not on this list, may be contributing resources within as yet unidentified historic districts.

Eligible and Non-Eligible Bridges Within Possible Historic Districts

BIN	Region	County	Eligibility Status
1011440	6	Steuben	Not eligible
1000040	8	Westchester	Eligible
1001000	1	Saratoga	Not eligible
1001220	5	Chautauqua	Eligible
1002800	2	Montgomery	Not eligible
1003510	8	Putnam	Not eligible
1004470	9	Delaware	Eligible
1005790	1	Essex	Not eligible
1006060	7	Clinton	Not eligible
1006160	8	Westchester	Not eligible
1006270	7	Clinton	Not eligible
1007020	1	Essex	Not eligible
1007370	8	Ulster	Not eligible
1008489	3	Onondaga	Not eligible
1008590	3	Oswego	Not eligible
1008650	7	Jefferson	Not eligible
1008820	7	St Lawrence	Not eligible
1008870	7	St Lawrence	Not eligible
1009600	7	Lewis	Eligible
1014500	8	Orange	Eligible
1015980	1	Albany	Not eligible
1016020	1	Rensselaer	Not eligible
1016550	8	Westchester	Not eligible
1016590	8	Westchester	Not eligible
1017710	7	Jefferson	Not eligible
1018079	10	Nassau	Not eligible
1018600	9	Broome	Eligible
1019860	9	Delaware	Not eligible
1019870	9	Delaware	Not eligible
1020110	2	Herkimer	Eligible
1021240	2	Hamilton	Not eligible
1024720	1	Rensselaer	Eligible
1024840	9	Chenango	Not eligible
1025220	1	Greene	Not eligible
1026490	2	Herkimer	Eligible
1027310	7	St Lawrence	Eligible
1028850	4	Orleans	Eligible
1029080	1	Rensselaer	Not eligible
1029250	1	Rensselaer	Eligible
1029570	7	St Lawrence	Eligible
1029590	7	Franklin	Not eligible
1030480	9	Broome	Eligible
1031570	3	Onondaga	Not eligible
1032800	7	St Lawrence	Eligible
1034290	3	Tompkins	Eligible
1035620	4	Wyoming	Not eligible
1036670	3	Cayuga	Eligible
1037150	8	Westchester	Eligible
1039620	7	St Lawrence	Eligible

Eligible and Non-Eligible Bridges Within Possible Historic Districts

BIN	Region	County	Eligibility Status
1039750	7	Jefferson	Not eligible
1039760	7	Jefferson	Not eligible
1041200	8	Ulster	Eligible
1041800	3	Cortland	Not eligible
1042460	4	Wyoming	Not eligible
1043060	4	Ontario	Not eligible
1043140	6	Allegany	Not eligible
1045160	1	Greene	Not eligible
1045570	8	Dutchess	Not eligible
1047720	8	Dutchess	Not eligible
1048270	7	St Lawrence	Eligible
1050210	9	Broome	Not eligible
1058480	10	Nassau	Not eligible
1060280	5	Chautauqua	Not eligible
1063890	4	Monroe	Eligible
1074760	6	Steuben	Eligible
2201660	1	Rensselaer	Eligible
2201820	1	Rensselaer	Eligible
2202940	1	Saratoga	Not eligible
2204400	2	Fulton	Not eligible
2205350	2	Oneida	Not eligible
2205750	2	Oneida	Eligible
2205760	2	Oneida	Eligible
2206410	2	Oneida	Eligible
2206460	2	Oneida	Eligible
2206550	2	Oneida	Not eligible
2206630	2	Oneida	Eligible
2207050	3	Cayuga	Not eligible
2208270	3	Onondaga	Not eligible
2208530	3	Onondaga	Eligible
2210440	3	Tompkins	Not eligible
2210630	3	Tompkins	Eligible
2212840	5	Erie	Not eligible
2213280	5	Erie	Eligible
2218260	6	Tioga	Not eligible
2219110	6	Tioga	Eligible
2219620	7	Clinton	Eligible
2221890	7	St Lawrence	Eligible
2224030	8	Putnam	Eligible
2225030	8	Westchester	Not eligible
2225120	8	Westchester	Eligible
2225130	8	Westchester	Not eligible
2225180	8	Westchester	Eligible
2225230	8	Westchester	Not eligible
2225290	8	Westchester	Eligible
2225840	9	Broome	Not eligible
2225900	9	Broome	Not eligible
2226120	9	Broome	Eligible
2226940	9	Delaware	Eligible

Eligible and Non-Eligible Bridges Within Possible Historic Districts

BIN	Region	County	Eligibility Status
2228190	9	Otsego	Eligible
2229480	11	Bronx	Not eligible
2229500	11	Bronx	Not eligible
2229510	11	Bronx	Not eligible
2229520	11	Bronx	Not eligible
2230190	11	Queens	Not eligible
2230250	11	Bronx	Eligible
2231260	11	Kings	Not eligible
2231900	11	Queens	Not eligible
2241020	11	Bronx	Eligible
2241040	11	Bronx	Eligible
2241850	11	Bronx	Not eligible
2242010	11	Bronx	Eligible
2242099	11	Bronx	Eligible
2242110	11	Bronx	Not eligible
2242319	11	Bronx	Eligible
2242350	11	Bronx	Eligible
2242400	11	Bronx	Eligible
2245460	11	New York	Eligible
2245470	11	New York	Eligible
2249800	11	Richmond	Eligible
2254800	8	Westchester	Not eligible
2254920	8	Westchester	Not eligible
2255390	2	Montgomery	Not eligible
2255530	2	Herkimer	Eligible
2255550	2	Herkimer	Eligible
2256077	4	Monroe	Eligible
2257690	3	Cayuga	Eligible
2257700	3	Onondaga	Not eligible
2257710	3	Onondaga	Not eligible
2257910	4	Monroe	Not eligible
2259250	7	St Lawrence	Eligible
2260420	5	Erie	Eligible
2260600	5	Erie	Eligible
2261190	10	Nassau	Not eligible
2262280	8	Westchester	Not eligible
2262650	8	Dutchess	Eligible
2263310	2	Oneida	Not eligible
2263540	9	Schoharie	Not eligible
2263550	9	Schoharie	Not eligible
2263800	3	Onondaga	Not eligible
2265280	8	Westchester	Eligible
2265670	8	Westchester	Not eligible
2265680	8	Westchester	Not eligible
2266070	3	Onondaga	Not eligible
2266870	2	Herkimer	Not eligible
2266880	2	Herkimer	Eligible
2268290	3	Tompkins	Not eligible
2269240	11	New York	Eligible

Eligible and Non-Eligible Bridges Within Possible Historic Districts

BIN	Region	County	Eligibility Status
2269290	1	Greene	Eligible
3045230	8	Ulster	Eligible
3209040	3	Oswego	Eligible
3210040	3	Tompkins	Eligible
3220190	7	Jefferson	Not eligible
3221670	7	St Lawrence	Not eligible
3222780	8	Columbia	Eligible
3224170	8	Rockland	Eligible
3300690	10	Suffolk	Not eligible
3300740	10	Suffolk	Not eligible
3301890	1	Essex	Eligible
3303890	1	Rensselaer	Eligible
3305530	1	Warren	Eligible
3306360	1	Washington	Eligible
3306580	1	Washington	Not eligible
3308890	2	Madison	Eligible
3312300	3	Cortland	Not eligible
3313080	3	Onondaga	Not eligible
3313800	3	Oswego	Not eligible
3314180	3	Tompkins	Not eligible
3323170	5	Cattaraugus	Eligible
3326350	5	Erie	Eligible
3326400	5	Erie	Not eligible
3327240	5	Erie	Eligible
3332580	6	Schuyler	Eligible
3336190	7	Clinton	Eligible
3336250	7	Clinton	Eligible
3336860	7	Franklin	Not eligible
3337650	7	Franklin	Not eligible
3338390	7	Jefferson	Not eligible
3338670	7	Jefferson	Eligible
3338900	7	Jefferson	Not eligible
3339610	7	Jefferson	Not eligible
3340570	7	St Lawrence	Eligible
3344300	8	Orange	Not eligible
3348060	8	Westchester	Not eligible
3348250	8	Westchester	Eligible
3348290	8	Westchester	Not eligible
3348300	8	Westchester	Not eligible
3348570	8	Westchester	Not eligible
3348590	8	Westchester	Eligible
3348880	8	Westchester	Eligible
3348890	8	Westchester	Not eligible
3348900	8	Westchester	Eligible
3353310	9	Delaware	Eligible
3355030	9	Schoharie	Not eligible
3358560	8	Westchester	Not eligible
3362260	5	Erie	Not eligible
3363280	7	Clinton	Eligible

Eligible and Non-Eligible Bridges Within Possible Historic Districts

BIN	Region	County	Eligibility Status
3363310	7	Clinton	Not eligible
3364900	8	Westchester	Not eligible
3365190	8	Ulster	Not eligible
3365910	3	Seneca	Not eligible
3366610	7	Jefferson	Not eligible
5035800	4	Wyoming	Eligible
5035810	4	Wyoming	Not eligible
5035820	4	Wyoming	Not eligible
5035830	4	Wyoming	Eligible
5228730	9	Sullivan	Eligible
5521360	3	Tompkins	Eligible
5521370	3	Tompkins	Eligible
5522030	5	Niagara	Eligible
5523980	3	Tompkins	Not eligible
5524100	2	Oneida	Eligible
7712470	8	Westchester	Not eligible